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The Role of Shame in Posttraumatic Stress Symptoms. A Systematic Review / The Impact of Inter-Parental Conflict, Parental Mental Health, the Parent-Child Relationship and Features of the Conflict on Child Well-Being

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The Impact of Inter-Parental Conflict, Parental Mental Health, the Parent-Child Relationship and Features of the Conflict on Child Well-Being

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CONTENTS

SECTION 1

The Role of Shame in Posttraumatic Stress Symptoms. A Systematic Review

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CONTENTS

ABSTRACT

A growing body of research has advanced understanding of the mechanisms underlying PTSD, providing convincing evidence that shame plays an important role in posttraumatic stress symptoms. These advancements have been reflected in the revised DSM-V with the addition of criterion relating to persistent, negative trauma-related emotions. However, research in this area is at an early stage and much remains unknown about the specific mechanisms that link trauma, shame and posttraumatic stress symptoms. To date, no review has been conducted to systemically critique this research. Therefore, to aid theoretical understanding and provide guidance for the development of appropriate therapies, a systematic search of the literature on shame and posttraumatic stress symptoms was conducted. Twelve articles met inclusion criteria and their quality was assessed against predetermined quality indicators. Higher levels of shame were found to be significantly associated with greater posttraumatic stress symptoms. Effect sizes were moderate to high. The review lends support to the argument that shame plays a significant role in creating and/or maintaining the sense of on-going threat associated with posttraumatic stress symptoms and should be considered when designing interventions. Methodological limitations of the studies are discussed and recommendations made for further research in this area.

(200 word limit)

Keywords: shame; posttraumatic stress disorder; PTSD; posttraumatic stress symptoms; trauma.

INTRODUCTION

Until recently, posttraumatic stress disorder (PTSD) was classified as an anxiety disorder. Previous conceptualisations failed to consider shame or cognitive-emotional aspects of PTSD. However, empirical research has increasingly provided evidence of an association between PTS (posttraumatic stress) symptoms and shame in a variety of trauma experiences, including intimate partner violence (e.g. Street & Arias, 2012), conflict (e.g. Dyer, Dorahy, Hamilton, Corry, Shannon et al, 2009)) sexual assault or abuse (e.g. Andrew, Brewin, Rose & Kirk, 2000) and psychosis (e.g. Turner, Bernard, Birchwood, Jackson & Jones, 2013). These advances in the understanding of the mechanisms underlying PTS symptoms have been reflected in the revised DSM-V, where PTSD has been reclassified as 'trauma and stressor-related disorders'. Changes to the diagnostic criteria for PTSD were made to take account of the increase in clinical and empirical evidence of the multiple ways traumatic distress can be experienced and expressed, including through shame affect. The recently modified DSM-V definition of PTSD (APA, 2013) incorporates eight criterion. The first relates to exposure to a stressor/trauma. Four criterion refer to four symptom clusters: re-experiencing symptoms (e.g. intrusive thoughts/images associated with the trauma); avoidance (e.g. of thoughts, feelings, places or people associated with the event); negative alterations in cognitions and mood (e.g. persistent negative beliefs and expectations about oneself or the world; persistent distorted blame of self or others for causing the traumatic event or resulting consequences; persistent negative trauma-related emotions, such as fear, anger, guilt, or shame); alterations in arousal and reactivity (e.g. hypervigilence). Three further criterion relate to the severity of symptoms.

Shame has, until relatively recently, been neglected in research (Mills, 2005). Labeled the 'self-conscious emotion' (Lee, Scragg & Turner, 2001), it involves a global negative evaluation of the self (Lewis, 1971) and incorporates negative self-evaluative emotions and cognitions relating to inferiority, worthlessness, defectiveness and powerlessness (Gilbert, 1998; Tangney & Dearing, 2002). External shame involves the perception that one is viewed negatively by others, while internal shame involves self-critical, negative views of oneself (Matos, Pinto-Gouveia & Gilbert, 2013). Both are important for social functioning (Matos et al, 2013).

Shame plays an important role in the development of sense of self and personal identity (Dearing & Tangney, 2011). The importance of the connection between shame and disorders of the self is recognized in the psychoanalytic literature (Pulver, 1999). It has been conceptualized as the result of superego conflicts, a defense against the overwhelming affects associated with trauma, and a protection against total helplessness (Wurmser, 2015). Shame has also been described as ubiquitous (Lewis, 1987). The transdiagnostic literature conceptualizes it as functioning as a common psychological process underlying presenting symptoms across a range of clinical disorders. Lewis (1987) refers to the role it plays in depression, obsessions, paranoia and personality disorders. There is also a growing literature base linking shame with eating disorders (Goss & Allan, 2009; Kelly & Carter, 2013). Gilbert and Irons (2004) theorize shame as a self-attacking process that underlies and maintains a variety of mood, anxiety and trauma-related disorders. By understanding PTS symptoms as involving a perceived threat to the social-self,

shame can be logically conceptualised as one of the emotions underlying the psychological distress associated with the disorder (Budden, 2009).

Support for the role of shame in PTS symptoms is provided in the theoretical literature. Budden's (2009) social-emotional model proposes that trauma involves, not only a threat to the physical self, but also a threat to the integrity of the social self. Shame is viewed to act as a mediator between the trauma threat and trauma symptoms. In this model, shame may work to generate symptoms of PTSD in a number of ways, such as stimulating defensive responses, triggering helplessness, damaging moral integrity and harming social identity. Viewing PTSD as a perceived threat to the social self offers an important addition to the understanding of PTS symptoms and consequences (Lee et al, 2001). As it represents a threat to the social or relational self, it has been linked to trauma that has a strong relational component, such as intimate partner abuse or sexual abuse. The experience of shame in trauma may be particularly harmful as it negatively impacts on social functioning and how we relate to others (Tracy & Robins, 2007). It can lead to relational avoidance, which can exert a damaging impact on personal relationships (Dorahy, Corry, Shannon, Webb, McDermott, Ryan & Dyer, 2013).

Ehlers and Clark's (2000) cognitive model of PTSD proposes that PTSD occurs only if the trauma and/or its sequelae are processed in a way that produces a sense of a current threat. This is accompanied by unwanted intrusions and other re-experiencing symptoms, physiological arousal, anxiety and negative appraisals of PTSD symptoms. Ehlers and Clark postulate that these appraisals maintain PTSD by

generating negative emotions such as anxiety, anger, depression or shame. Brewin, Dalgleish and Joseph (1996) proposed a dual representation theory to reconcile information processing and social cognitive theories of PTSD. They viewed PTSD as involving two separate processes. One relates to the resolution of negative beliefs and their accompanying emotions. The other is concerned with the management of flashbacks (Brewin & Holmes, 2003). A primary emotional reaction, experienced during the traumatic event (e.g. fear, anger), and a secondary emotional reaction, experienced as a consequence of the trauma (e.g. shame, guilt), are identified (Monson, Resick & Rizvi, 2014). Adjustment depends on the effective management of both these processes.

Given the traditional conceptualization of PTSD as a fear-based disorder, many therapeutic interventions have focused on reducing or eliminating fear experiences while other emotional responses such as shame have been somewhat neglected. Despite an increasing clinical evidence base for interventions that address shameful affect, such as Gilbert's compassion-focused therapy (Gilbert, 2009) and the application of acceptance and compassion-based approaches to shame (e.g. Skinta, 2014), the shame theoretical concepts they are based on have yet to be rigorously tested. To progress this type of treatment, the research examining shame concepts needs to be further explored and reviewed.

Despite a growing body of research supporting a relationship between shame and PTS symptoms, the development of theoretical models, and the inclusion of shame in DSM-V, much remains unknown about the specific mechanisms that link

traumatic experiences, shame and PTS symptoms. A more comprehensive examination of this relationship will aid theoretical understanding and provide guidance for the development and appropriate use of shame-based therapies. The aim of this review is to conduct a systematic synthesis of empirical literature that examines the relationship between shame and PTS symptoms. To date, no systematic reviews have been conducted in this area; therefore this synthesis will provide a valuable contribution to current understanding of the role shame plays in PTS symptoms. As this area of research is relatively new, the review included studies that examined 'PTS symptoms' (not restricted to a formal diagnosis of PTSD) to ensure that both clinical and non-clinical samples were included. The primary objective of this review is to examine the relationship between shame and PTS symptoms in trauma-exposed populations. A secondary aim is to examine the theoretical role shame plays in PTS symptoms and trauma.

METHOD

Search Strategy

A preliminary search of the Cochrane Database of Abstracts of Reviews of Effects (DARE) was conducted to determine whether similar reviews had been carried out in this area. The keyword 'shame' was entered as the search term. No relevant studies were identified.

A comprehensive search of the literature was conducted on 29th August 2014 across three electronic databases: PsychINFO (1806-2014); Medline (1946-2014);

and SCOPUS (1996-2014). Search strategies were tailored to each database to ensure consistency across search terms. PsychINFO and Medline both facilitate the mapping of the search term onto the subject headings, identifying studies with comparable keywords to those specified in the search strategy. The two key search terms "shame" and "posttraumatic stress disorder" were entered into the database search engines. No variants of "shame" were identified in either PsychoINFO or Medline. "PTSD" and "shellshock" were automatically included as mesh headings under "posttraumatic stress disorder" in PsychINFO with "complex trauma" included as an additional search term using the boolean operator "OR". Medline automatically included "stress disorders" and "post-traumatic" as mesh headings under "posttraumatic stress disorder". "PTSD", "shellshock" and "complex trauma" were entered as additional search terms, again using the Boolean operator "OR".

SCOPUS does not allow for the matching of search terms to subject headings and therefore all possible terms that could be used to describe the variables of interest were specified in the search. As no variants of "shame" had been highlighted in the PsychINFO and Medline searches, this term was entered unexpanded as a key search term in SCOPUS. To ensure consistency across the three databases, the boolean operator "OR" was used to include all variants of "posttraumatic stress disorder" - "post*stress*" OR "PTSD" OR "shellshock" OR "complex trauma". The search process was further refined by specifying articles published in the English language and in peer-reviewed journals. No option was available in Medline and SCOPUS to isolate peer-reviewed journals. Therefore articles were assessed against these criteria after the databases were merged, duplicates removed, and abstracts reviewed for relevance. The search strategy is outlined in Appendix One.

A total of 280 articles were identified across the three databases. The articles were merged in RefWorks (online research management database) and duplicates removed, leaving 198 articles. These were screened according to the following predetermined inclusion criteria:

- Published articles only
- Studies conducted with participants exposed to a traumatic event
- Studies involving trauma-exposed samples that conducted analyses exploring the role of shame in relation to PTS symptoms
- Studies that use established psychometric measures of PTS symptoms and shame, including subscales
- Intervention studies and empirical research papers
- Studies in the English language and in peer-reviewed journals only
- Adult population, aged 18 and over
- No parameters set in relation to date of publication

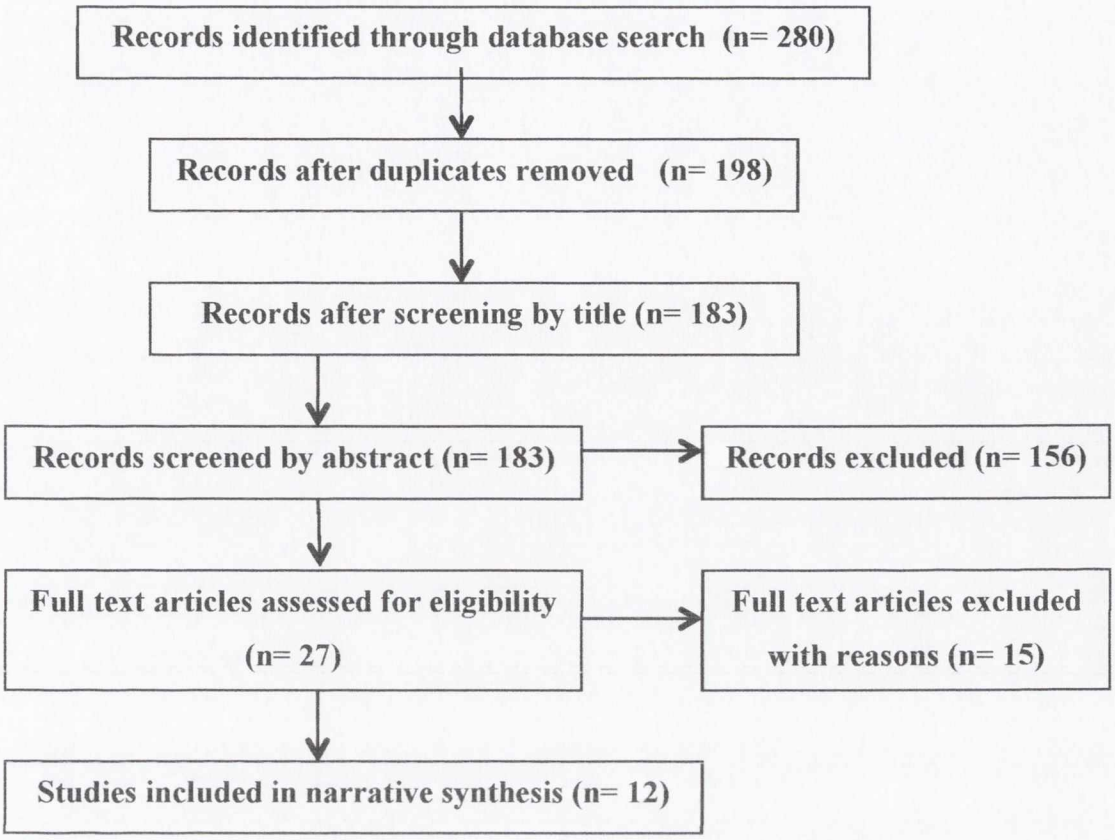
Studies were omitted if they met the following exclusion criteria:

- Qualitative studies, case studies and reviews
- Studies that do not use established psychometric measures of PTS symptoms and shame; including those that use edited versions of existing scales or researcher-generated measures

- Studies not including statistical analyses exploring the role of shame in relation to PTS symptoms
- Undergraduate/college samples
- Studies with a target population that have a primary diagnosis other than that relating to PTS symptoms (e.g. psychosis; BPD)

The titles of the 198 articles were reviewed independently by both reviewers, TH and DM, to remove articles that met the exclusion criteria (e.g. qualitative studies). A total of 183 articles were identified for abstract review. Both reviewers independently applied the inclusion/exclusion criteria to the abstracts, excluding 156 articles. This left 27 full-text articles to be retrieved for assessment of eligibility. Both reviewers independently applied the inclusion/exclusion criteria to these articles. A consensus was reached and 12 articles were identified for inclusion in the narrative synthesis. Inter-rater agreement was high (kappa = .88; Appendix Two). Reference lists of relevant articles were manually searched for studies not identified in the database searches. No additional studies were identified. The selection process is outlined in Figure 1 (based on Moher, Liberati, Tetzlaff & Altman, 2009). An overview of the selected studies is provided in Appendix Three.

Figure 1. Flow Diagram of the Systematic Review Selection Process



Development of Quality Appraisal Tool

A variety of existing quality appraisal tools were scrutinized for their suitability to assess the quality of the articles selected for the review. However, these tools tended to be more appropriate for randomised controlled trials or experimental studies and less suited to the studies identified for this review, which were predominately cross-sectional in design. A composite tool was therefore developed, based on two existing quality measurement instruments: STROBE (Strengthening the Reporting of OBservational studies in Epidemiology) and an appraisal tool adapted from Guyatt, Sackett and Cook (2002). STROBE is a checklist of recommendations developed to improve the quality of reporting of observational studies. Guyatt et al's (2002) tool provides a guide to appraise cross-sectional studies within the medical literature.

Nine quality criteria were identified as relevant for the current review and were rated on a two-point system, as suggested by Guyatt et al (2002): 1 = Yes; 0 = No/Cannot tell. Two authors, DM and TH, independently reviewed the 12 articles. A breakdown of the quality assessment criteria can be found in Appendix Five. The quality ratings for each article are outlined in Appendix Four.

RESULTS

Overview of Selected Studies

Twelve studies were included in the review (Appendix Three). Eleven were cross-sectional, correlational designs; one was a randomized controlled trial. Four studies involved clinical samples; six community-based samples; and two both clinical and community-based samples. Six studies were American and four were conducted in the United Kingdom. The remaining two studies were conducted in Australia and Sweden. Sample sizes ranged from 22 to 264. Five studies involved female participants only and one involved male participants only. Six included both genders.

The main aim of the review was to explore the role of shame in PTS symptoms. The articles differed in their focus, although all explored the relationship between shame and PTS symptoms. Type of trauma exposure varied and included intimate partner violence, conflict, childhood sexual abuse and adult sexual abuse.

All measures relevant to the review were self-report, with good reliability and validity. Nine different scales were used to measure PTS symptoms across the 12 studies. The most commonly used was the Post-traumatic Stress Diagnostic Scale (PDS; Foa, Cashman, Jaycox & Perry, 1997), administered in three studies. Three versions of the Posttraumatic Stress Disorder Checklist (PCL) were used – PCL-Specific (Weathers, Huska & Keane, 1991; Weathers & Ford, 1996); PCL-Civilian (Weathers, Litz, Herman, Huska & Keane, 1993); and PCL-Military (Blanchard, Jones-Alexander, Buckley & Forneris, 1996). Six different scales were used to measure shame, the most common being the Test of Self-Conscious Affect (TOSCA; Tangney & Dearing, 2002), administered in four studies, although the Internalised Shame Scale (ISS; Cook, 1987, 1996) and Experience of Shame Scale (ESS; Andrews, Qian & Valentine, 2002) were each employed in three studies.

Relationship between Shame and PTS Symptoms

Thirteen samples were examined across the 12 studies. A significant positive relationship was observed between shame and PTS symptoms in eleven samples. Strong significant positive correlational relationships were reported by Bogner, Herlity and Brewin (2007) (rho= 0.75, $p<0.001$), Hundt and Holohan (2012) ($r=0.59$, $p<0.001$) and Maddox, Lee and Barker (2011) ($r= 0.57, p<0.01$). Bogner et al (2007) explored the impact of sexual violence on reported PTS symptoms, shame reactions, dissociation experiences and disclosure in 27 male and female asylum seekers. Hundt and Holohan (2012) explored the role of shame in distinguishing between perpetrators and non-perpetrators of IPV using archival data from an existing database of 264 male veterans. Maddox et al (2011) examined the

relationship between PTSD severity, shame, self-blame, police empathy and rape case attrition in 22 male and female victims of rape.

Moderate positive relationships between shame and PTS symptoms were reported by Ginzburg, Butler, Giese-Davis, Cavanagh, Neri and Koopman et al (2009) ($r=0.38$, $p<0.001$), Harman and Lee (2010) ($r=0.32$, $p<0.01$), Leskela, Dieperink and Thuras (2002) ($r=0.48$, $p<0.001$), Semb, Stromsten, Sundbom, Fransson and Henningson (2011) ($r=0.44$, $p<0.01$), Street and Arias (2011) ($r=0.47$, $p<0.0001$) and Vidal and Petrak (2007) ($rho=0.41$, $p<0.05$). Ginzburg et al (2009) conducted a randomized controlled trial (RCT) to evaluate the effectiveness of two types of group psychotherapy in reducing levels of shame and guilt in 129 female survivors of childhood sexual abuse at risk for HIV. Harman and Lee (2010) explored shame in 49 adults referred for outpatient treatment for PTSD. Leskela, et al (2002) surveyed 156 male, community-residing prisoners of war to examine the association between shame, guilt and PTSD symptom severity. Semb et al (2011) explored the relationship between shame-proneness, event-related shame and PTSD symptoms in 35 male and female victims of a single, violent crime. Street and Arias (2001) examined the role of shame and guilt in PTSD in 63 women who have experienced psychological abuse by an intimate partner. Vidal and Petrak (2007) explored the extent to which 25 women sexually assaulted as adults reported shame. Only one study identified a weak correlation between shame and PTSD ($r=0.24$) (Beck, McNiff, Clapp, Olsen, Avery & Hagewood, 2011). This study involved a sample of 63 females who had experienced intimate partner violence (IPV).

Seven studies conducted regression analyses to further explore the relationship between shame and trauma symptoms. Although Beck et al (2011) observed a weak correlation between shame and PTSD, they reported a significant effect between emotional/verbal abuse and shame ($B=0.033$, $p<0.05$) and between domination/isolation and shame ($B=0.038$, $p<0.05$) in their regression analysis. Simple slope analyses indicated that higher levels of shame were significantly more likely to be associated with higher levels of PTSD in women with experience of high levels of emotional/verbal abuse ($p=0.001$) and those with high levels of dominance/isolation ($p=0.001$) relative to low levels of shame. Effect sizes were medium in magnitude. DePrince, Chu and Pineda (2011) explored the contribution of shame to PTSD in a sample of 236 female victims of IPV and a sample of 91 women who had experienced childhood abuse (CSA). Shame was identified as a significant predictor of PTSD ($B=3.45$, $P<0.05$) in the CSA model, but not in the IPV model.

Semb et al (2011) reported a large statistically significant total effect between shame proneness and trauma symptoms (estimated effect 0.43, $p<0.05$), and a medium statistically significant direct effect between event-related shame and trauma symptoms (estimated effect 0.36, $p<0.01$). The direct effect between shame proneness and trauma symptoms was non-significant, although the indirect path reached significance (estimated effect 0.12, $p<0.05$). Shame emerged as a significant, although small, correlate of PTSD symptoms (R^2 (2,46) = 0.20, $\beta = 0.44$, t (46) = 3.34, $p< 0.01$) in Street and Arias' (2011) study. Shame-proneness added significantly to the prediction of PTSD total scores in Leskela et al's (2002) model, and was positively related to higher PTSD scores ($\beta = 0.54$, $p < 0.001$). Effect sizes

were large. Higher shame proneness was observed in participants with PTSD than those without ($F(1, 88) = 15.1$, $p < 0.001$).

Only two samples reported a non-significant relationship between shame and PTS symptoms: the IPA sample in DePrince et al's (2011) study, and the parent sample in Barr's (2012) research. The IPA sample involved women with very recent exposure to trauma. The study was unable to determine whether appraisals made at the time of the event impacted differently on PTS symptoms than those made after the event. Fear emerged as a significant positive predictor in this sample, suggesting that fear is a more prevalent emotion closer to the event, while shame appraisals develop over time. Participants in Barr's (2012) study were 67 parent couples of infants in an intensive care unit. The study examined the relation of parent's personality predisposition to shame, guilt and fear of death, with symptoms of posttraumatic stress, anxiety and depression. Barr proposed that the absence of a significant relationship may be due to guilt being more relevant to this sample than shame. He also indicated that measuring other types of shame (e.g. bodily shame) might have been more appropriate here than shame-proneness.

Theoretical Mechanisms of Shame and PTSD

Some of the studies explored shame as a mediator in the relationship between PTS symptoms and trauma experience. Hundt and Holohan (2012) identified shame as fully mediating the relationship between PTS symptoms and perpetration of IPV. However, when depressive symptoms were included in the model, shame no longer emerged as a significant mediator. High correlations were observed between shame,

depression and PTS symptoms and the authors suggested that their findings may reflect measurement overlap between their shame and depression measures. Street and Arias (2001) reported that shame fully mediated the relationship between emotional/verbal abuse and PTS symptoms. Physical abuse, domination/isolation abuse and total psychological abuse scores were not tested in the model as they did not emerge as significant correlates of shame. Beck et al (2011) also explored emotional/verbal abuse and domination/isolation as moderators of the relationship between shame and PTSD. They found that high levels of both emotional/verbal abuse and dominance/isolation interacted with high levels of shame in their relationship with PTSD. The authors concluded that shame is likely to interact with significant forms of abuse in association with PTSD. Semb et al (2011) reported that event-related shame acted as a mediator between shame-proneness and post-victimisation symptoms. Shame-proneness and event-related shame interacted to exert a co-dominant influence on trauma symptom levels. The authors hypothesized that shame-proneness may reflect a stable personality trait that precedes, and is exacerbated by, event-related shame which may result in PTS symptoms. However event-related shame was measured using a single-item visual analogue scale and therefore caution should be exercised when interpreting these findings. Ginzberg et al (2009) reported that change in shame was a significant mediator to change in PTSD symptoms ($F(3,165) = 11.25$, $p < 0.000$). Shame acted as a significant barrier to treatment for PTSD in their RCT intervention study, with approximately a third of the decrease in PTS symptoms attributed to the mediation effect of change in shame.

Vidal and Petrak (2007) were interested in the relationship between type of trauma and type of shame experience. Women who had experienced sexual trauma

scored significantly higher on behavioural and body shame scores than an undergraduate comparison sample. Bodily shame increased significantly when the following variables were present: physical consequences as a result of the assault; medical examination after the assault; assaulted by a known assailant; previous sexual victimisation. Behavioural shame was significantly related to self-blame and characterological shame was significantly related to previous sexual victimisation. These findings suggest that bodily shame is particularly salient in female sexual assault survivors. However, the use of a small, non-representative sample limits the conclusions that can be drawn from this study.

Some studies reported associations between shame and specific PTS symptom clusters. Leskela et al (2002) found shame-proneness to be moderately positively correlated with avoidance ($r=0.42$, $p<0.001$) and arousal ($r=0.28$, $p<0.001$) symptoms. They also reported a significant, although small, positive relationship with re-experiencing symptoms. Semb et al (2011) also reported a moderate positive relationship between shame-proneness and avoidance symptoms ($r=0.53$, $p<0.01$). No significant associations were observed between shame and arousal and intrusion (re-experiencing) symptoms. Bogner et al (2007) reported a strong positive relationship between shame and avoidance symptoms ($rho=0.79$, $p<0.001$). Higher shame was also moderately associated with increased arousal symptoms ($rho=0.52$, $p<0.01$). However a significant relationship was not observed with re-experiencing symptoms.

Harman and Lee (2010) were interested in factors that contributed to shame in PTSD. They reported a strong positive association between shame and self-criticism, and a moderate negative correlation between shame and self-reassurance. The authors concluded that individuals with PTSD who report higher levels of shame were more likely to engage in self-critical thinking and less likely to engage in self-reassuring thinking than individuals with PTSD who report lower levels of shame. The correlational design of the study, however, limits conclusions regarding the causality of these relationships.

DISCUSSION

Synthesis of Main Findings

This review provides strong support for a relationship between shame and PTS symptoms, with significant associations observed in eleven of the studies. Overall, the synthesis indicated that higher levels of self-reported shame are associated with greater PTS symptoms. The majority of relationships were moderate to high in magnitude. Shame also emerged as a significant predictor of PTS symptoms in most of the studies that conducted further multivariate analysis. In terms of the theoretical role of shame, some studies identified shame as a mediator in the relationship between PTS symptoms and traumas (e.g. psychological maltreatment), whereas other forms of trauma (e.g. dominance/control in intimate partner violence) moderated the shame and PTS symptom relationship. However, given the methodological limitations of the studies and the small number of studies involved in the analysis, these results should be treated with caution. A RCT intervention study found that shame acted as a significant barrier to interventions for

posttraumatic stress. Approximately one third of the change in post-trauma symptoms within the two therapeutic treatment groups could be attributed to alleviation in shame symptoms. Although more research in this area is needed, these results support the importance of shame in PTS presentations and the need for the future integration of shame assessment and intervention modalities in therapy.

The mediating role of shame on trauma and PTS symptoms can be understood from a cognitive perspective. Ehlers and Clark's (2000) cognitive model of PTSD proposes that negative appraisals of the trauma lead to a sense of current threat. Negative schema relating to the self may be activated (e.g. I am bad) which may then evoke shame responses. The perception of the self as bad or damaged may lead to problematic coping strategies, such as withdrawal or avoidance. This may increase the likelihood of self-destructive behaviours and the development of PTS symptoms (Dyer, Dorahy, Shannon & Corry, 2013).

The three studies that explored the relationship between shame and individual PTS symptom clusters suggested that shame was most strongly associated with avoidance symptoms (Bogner et al, 2007; Leskela et al, 2002; Semb et al, 2011). Two of these studies also reported shame to be moderately associated with arousal symptoms. Only Leskela et al's (2002) study observed a relationship between shame and re-experiencing symptoms and the size of the effect was small. Budden (2009) suggests that shame forms the pathological nucleus of the avoidance symptom cluster in PTSD, whereby it reflects attempts to escape triggering stimuli or to conceal intrusive memories. Cognitive avoidance is also identified as a maladaptive

processing style in Ethlers and Clark's model (2000). The association between shame and avoidance is further supported in Nathanson's (1992) compass of shame model. Avoidance is one of the main coping styles identified in this model whereby the negative experience is not acknowledged, the shame message is denied, and attempts are made to distract from the painful feeling (Elison, Lennon & Pulos, 2006).

The nature of the trauma experience played an important role on the type of shame identified in some of the studies. All but one of the studies involved individuals who had experienced trauma with an interpersonal component. The study without an interpersonal component did not report a significant relationship between shame and PTS symptoms (Barr, 2012). This lends support to the argument that shame plays an important role in trauma that has a relational element (Budden, 2009), the theoretical conceptualisation of shame as the 'self conscious emotion' and PTSD as a threat to the social self (Lee et al, 2001). This is further supported by research indicating that bodily shame was salient amongst women who had experienced sexual trauma (Vidal & Petrak, 2007) and the presence of a relationship between shame and self-blame and self-criticism in traumatised groups (Harman & Lee, 2010). These findings indicate that type of trauma and its impact on shameful affect should be considered when designing therapeutic interventions for PTSD.

Quality, Methodological Issues and Limitations

Overall, the quality ratings suggested that the studies included in this review are of moderate to high quality. However, a number of methodological issues were identified. As the majority of the studies were cross-sectional and correlational in

design, it was not possible to indicate the causal direction of the relationship between the variables. Although some studies identified shame as a predictor of PTS symptoms via regression analyses, they were unable to determine causality. It was also not possible to establish pre-trauma levels of shame (e.g. Maddox et al, 2011). Research on shame and PTS symptoms is still at an early stage and the area would benefit from longitudinal studies to further understanding of this relationship.

Sample sizes varied across the studies. Power statistics were not reported and therefore it is not known whether adequate sample sizes were used to accurately detect effect. A design weakness of many of the studies was the reliance on convenience sampling. This introduced sampling bias, whereby it is unlikely that the samples were representative of the target population due to, for example, self-selection bias. This resulted in low external validity, limiting wider inferences. Some studies attempted to reduce bias by inviting all participants using a particular service to take part and/or comparing the main characteristics of participants and non-participants (e.g. Barr, 2012; Ginzburg et al, 2009; Harman & Lee, 2010). Participants in Hundt and Holohan's (2012) study completed measures as part of routine clinical practice, suggesting they may have been representative of the targeted veteran population. Although generalisations cannot be reliably inferred to the wider population, the review studies, when considered together, incorporate a variety of individuals with various trauma experiences. The replication of the findings across these samples lends validity to the conclusions drawn in this review. However the diversity of traumas experienced by study participants reduces the ability to draw firm conclusions relating shame to any specific type of trauma. As the literature base in this area grows, it would be beneficial to explore the role shame

plays in PTS symptoms in relation to distinct categories of trauma, such as child sexual abuse or IPV.

Measurement bias was an issue for a number of the studies. This included time delays between measures (Harman & Lee, 2010) and using measures not validated for use with the population (Beck et al, 2001; Bogner et al, 2007). Further, all the studies relied on self-report measures of PTS symptoms and shame. While the questionnaires were psychometrically validated, limitations inherent to self-reporting include acquiescence, social desirability, and under/over reporting errors. Attempts were made to address these by, for example, having an independent clinician review a random selection of videotaped interviews (Beck et al, 2001). Future research could address bias by employing multiple measures to identify shame and PTS symptoms, such as greater utilization of clinical interviews or supplementing self-reports with other methods of assessment.

Due to the limited number of studies conducted on shame and PTS symptoms, this review included studies that measured various types of shame (e.g. trait and state shame). Although these different types of shame were shown to have a significant relationship with PTS symptoms in this review, future research should explore the possible unique roles stable characteristics or temporary states may play in the onset or maintenance of PTS symptoms.

Study participants may have had experience of multiple traumas over a period of time (e.g. Beck et al, 2011). The review studies were unable to exclude the impact of such additional traumas on participants' experiences of shame. Although some studies attempted to address this by highlighting the other traumas or by asking participants to identify their main trauma when completing the questionnaires, it is possible that other traumatic experiences confound these results. It is therefore difficult to determine whether a particular type of trauma is associated with shameful affect. Notwithstanding this, outcomes from the various studies indicate that a variety of trauma experiences that result in PTS symptoms are associated with shame.

Clinical Implications

The current review lends support to previous research that links shame and PTS symptoms. This strengthens the argument that shame, in addition to fear, plays a significant role in creating and/or maintaining the sense of ongoing personal threat associated with PTSD (Ehlers & Clark, 2000) and should be considered when designing interventions for treating clients with PTS symptoms. For example, Harman and Lee (2010) indicated that individuals with high levels of shame were more likely to engage in self-critical thinking, less able to self-reassure, and less likely to have the skills to induce feelings of personal safety. They suggested that, in addition to traditional cognitive interventions, clients might benefit from being taught techniques to promote self-compassion and self-reassurance. Indeed, Gilbert (2000) proposes that individuals can deal with threat by internalizing self-support and compassion and this forms the basis of his compassion-focused therapy. Gilbert

views shame memories as being stored as scenes and the therapist can play a role in identifying detailed memories and deconstructing the scene. The findings from this review support the utilization of such interventions when working with people with shame and PTS symptoms. Only one review study explored specific treatment effects on shame and how shame mediated PTS symptoms (Ginzberg et al, 2009). This study suggested that treatment may both reduce painful self-evaluations and PTS symptoms. Clinical practice would benefit from further research to determine how levels of shame impact on treatment and, alternatively, how treatment impacts on levels of shame. Further, given the role shame plays in PTS symptoms, it would be worthwhile to design more tailored interventions to address shameful affect in clients with trauma experiences. Research suggests that trauma with an interpersonal nature such as IPV or sexual abuse/assault is more likely to evoke shame as the trauma is an assault on the self (Budden, 2009). It is therefore recommended that attention is directed to the experience of shame during assessment (e.g. shame cognitions, responses and coping styles) and intervention with clients who have experienced these types of interpersonal trauma. Consideration should also be given to the role managing shame plays in relationship difficulties and how this may impact on the therapeutic relationship (Dorahy et al, 2013).

Future Research

The relationship between shame and PTS symptoms is a recent area of investigation and research in this area features a number of methodological limitations. Although this synthesis provides support for the relationship, it should be tentatively interpreted. Further research is needed with more robust methodologies to

allow for more confident inferences to be drawn. Many of the studies involved in this review explored shame as an adjunct to other measures and it is recommended that more studies are conducted with a specific emphasis on shame in PTSD clinical samples. This should include longitudinal designs and a variety of data collection methods. Research should also focus on developing better measures of shame and theoretical constructs of shame should be explored in a more comprehensive manner. Only one study in this review examined the role of shame in interventions, indicating its relevance in clinical practice. However, this interpretation should be treated cautiously and it is recommended that more RCTs are carried out to provide a more robust knowledge base in this area.

CONCLUSION

This review has provided evidence of an interaction between shame, traumatic experiences and PTS symptoms. It lends support to the argument that increases in shame are associated with an increase in PTS symptoms and supports the reclassification of PTSD diagnostic criteria in the DSM-V. Support was also found for the theoretical role of shame as a mediator of trauma and PTS symptoms, and for the potential relevance of addressing shame when designing interventions. However, given the limitations of the current research base, such interpretations should be treated tentatively. The findings from this review highlight the need for more robust research in this area.

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SECTION 2

TECHNICAL APPENDIX FOR SYSTEMATIC REVIEW

APPENDIX ONE

PsychINFO:

1. Shame	2522 hits
2. Posttraumatic Stress Disorder (automatically includes PTSD and shellshock as mesh headings)	20246 hits
3. Complex trauma	207 hits
4. Combine 2 OR 3	20381 hits
5. Combine 1 AND 4	56 hits
6. Limit by English language and peer reviewed journals	33 hits

Medline:

1. Shame	1581 hits
2. Posttraumatic Stress Disorder (automatically includes stress disorders and post-traumatic)	21520 hits
3. PTSD	11596 hits
4. Shellshock	54 hits
5. Complex trauma	161 hits
6. Combine 2 OR 3 OR 4 OR 5	23089 hits
7. Combine 1 AND 6	76 hits
8. Limit by English language and journal article	71 hits

SCOPUS

1. Shame	7875 hits
2. "post*stress* OR "PTSD" OR "Shellshock" OR "complex trauma"	41622 hits
3. combine 1 AND 2	251 hits
4. Limit by English language and journal article	176 hits

APPENDIX TWO

Calculating Kappa

		Reviewer 1 (TH)			
Reviewer 2 (DM)		**Include**	**Unsure**	**Exclude**	**Row Total**
	Include	**9**	1	0	10
	Unsure	0	**5**	0	5
	Exclude	1	0	**11**	12
	Column Total	11	5	11	27

Row x column total / total n

(10 x 10) /27 = 3.70
(5 x 6) /27 = 1.11
(12 x 11) /27 = 4.89

9.7 / 27 agreements expected by chance = 0.36

(total observed – total expected) / (total n – total expected)
(25 – 9.7) / (27 – 9.7)
= 15.3 / 17.3
= **0.884**

APPENDIX THREE

Table 1: Overview of Selected Studies

Author & Country	Design	Participants	Sample	*Measure of PTSD symptoms	*Measure of Shame	Key Findings
Barr, (2012) Australia	Cross-sectional correlational design	67 parent couples of infants in neo-natal intensive care unit	Community-based	PCL-S (specific version)	TOSCA - 3 (short version)	Shame had a negligible correlation with the PCL-s and did not predict PTSD symptoms.
Beck et al., (2011) USA	Cross-sectional correlational	63 females who have experienced	Clinical	CAPS	ISS	A small, significant relationship was observed between shame and PTSD

	design	intimate partner violence				(r=0.24, p<0.05). Higher levels of shame were associated with emotional/verbal abuse (B=0.033, p<0.05) and domination/ isolation (B=0.038, p=0.01). Both were associated with higher levels of PTSD (p=0.001).
Bogner et al., (2007) UK	Cross-sectional correlational design	27 refugee and asylum seekers, with a history of pre-migration	Both clinical & Community-based	PSS-I	ESS	Higher shame associated with higher overall PTSD scores (rho=075, p<0.001).

		trauma				
DePrince et al (2011) (USA)	Cross-section correlational design	2 samples: 94 women with experience of childhood sexual abuse; 236 women with experience of intimate partner violence	Community-based	PDS	TAQ	Shame emerged as a significant predictor of PTSD in the childhood sexual abuse sample ($B=3.45$, $p<0.05$) but not in the intimate partner violence sample.
Ginzburg et al.,	Randomized	166 female	Clinical	PCL-S (specific	Shame subscale of	Moderate relationship

(2009) USA	Clinical Trial	survivors of childhood sexual abuse at risk of HIV		version)	the Abuse-Related Beliefs Questionnaire	between PTSD and shame ($r=0.38$, $p<0.001$). Shame emerged as a significant mediator of treatment outcome on change in PTSD symptoms ($F(3,165)=11.25$, $p<0.000$).
Harman & Lee, (2010) UK	Cross-sectional correlational design	49 outpatients attending mental health services	Clinical	PDS	ESS	A moderate positive relationship was observed between shame and PTSD ($r=0.32$, $p<0.01$).
Hundt & Holohan, (2012)	Cross-sectional	264 veteran outpatients	Clinical	PCL-C (civilian version)	ISS	Higher shame associated with higher PTSD ($r=0.59$,

USA	correlational design	attending mental health clinic				p<0.001).
Leskela et al, (2002) USA	Cross-sectional correlational design	107 prisoners of war (POWs)	Community-based	PCL-M (military version)	TOSCA	Shame-proneness moderate positive correlation with PCL total (r=0.48, p<0.001. Higher shame proneness was observed in participants with PTSD than those without (F(1,88)=15.1, p<0.001) and was positively related to higher scores on the PCL (β=0.54, p<0.001).
Maddox et al,	Cross-	22 rape	Community-	PDS	ISS	Higher shame associated

(2011) UK	sectional correlational design	victims recruited via sexual assault referral centre	based		OAS	with greater PTSD severity ($r=0.57$, $p<0.01$).
Semb et al, (2011) Sweden	Cross-sectional correlational design	35 victims of a violent crime	Community-based	HTQ	TOSCA	Higher shame proneness significantly related to PTSD ($r=0.44$, $p<0.01$).
Street & Arias, (2011) USA	Cross-sectional correlational design	63 female victims of intimate partner violence	Community-based	CMS	TOSCA	Higher shame associated with higher PTSD scores ($r=0.47$, $p<0.0001$). Shame emerged as a significant correlate of PTSD symptoms ($R^2(2,46)=0.20$,

						β=0.44, t(46)=3.34, p<0.01).
Vidal & Petrak, (2007) UK	Cross-sectional correlational design	25 female survivors of sexual assault	Both clinical & community-based	IES-R	ESS	Higher shame associated with higher PTSD scores (rho=0.41, p<0.05).

**Key of Measures: CAPS – Clinician- Administered PTSD Scale; CMS – Civilian Mississippi Scale for PTSD; ESS - Experience of Shame Scale; HTQ – Harvard Trauma Questionnaire; IES-R – Impact of Events- Revised; ISS – Internalised Shame Scale; OAS – Other as Shamers Scale; PCL – Posttraumatic Stress Disorder Checklist; PDS - Post-traumatic Stress Diagnostic Scale; PSS-I – PTSD Symptom Scale – Interview; TAQ – Trauma Appraisal Questionnaire; TOSCA – Test of Self Conscious Affect*

APPENDIX FOUR

Quality Ratings of Selected Studies										
Quality criteria study	***Aims & Objectives***	***Participants***	***Procedure***	***Bias***	***Measures of PTS symptoms***	***Measures of shame***	***Power***	***Analyses***	***Limitations***	***Global rating (max = 9)***
Beck et al (2011)	1	1	1	1	1	1	0	1	1	8
DePrince et al (2011)	1	1	1	1	1	1	0	1	1	8
Ginzburg et al (2009)	1	1	1	1	1	1	0	1	1	8
Harman & Lee (2010)	1	1	1	1	1	1	0	1	1	8
Hundt & Holohan (2012)	1	1	1	0	1	1	0	1	1	7

Maddox et al (2011)	1	1	1	0	1	1	0	1	1	7
Semb et al (2011)	1	1	1	0	1	1	0	1	1	7
Street & Arias (2011)	1	0	1	1	1	1	0	1	1	7
Vidal & Petrak (2007)	1	1	1	0	1	1	0	1	1	7
Barr (2012)	1	0	1	0	1	1	0	1	1	6
Leskela et al (2002)	1	0	1	0	1	1	0	1	1	6
Bogner et al (2007)	1	0	1	1	0	0	0	1	1	5

APPENDIX FIVE

Quality Assessment Criteria	*Quality Ratings*
1. **Aims & Objectives** - Are the objectives stated including any pre-specified hypothesis?	1 = Yes 0 = No/ Cannot tell
2. **Participants** - Is the eligibility criteria, and the sources and methods of selection of participants given?	
3. **Procedure** - Were the data collected in a way that addressed the research issue? – Was the setting for data collection justified? – Is it clear how data were collected (e.g., interview, questionnaire, chart review)? – Did the researcher justify the methods chosen? – Did the researcher make the methods explicit? (e.g. for interview method, is there an indication of how interviews were conducted?)	
4. **& 5. Measures of Shame/PTS Symptoms** - Were the measures accurately measured to reduce bias? – Did they use subjective or objective measurements? – Do the measures truly reflect what you want them to (have they been validated)?	
6. **Bias** – Is there evidence of efforts made to address potential sources of bias?	
7. **Power** - Did the study have enough participants to minimize the play of chance? – Is the result precise enough to make a decision? – Is there a power calculation?	
8. **Analyses – Was the data analysis sufficiently rigorous?** – If there is an in-depth description of the analysis process – If sufficient data are presented to support the findings	
9. **Limitations** - Are limitations of the study discussed, taking into account sources of potential bias or imprecision? – Consider sampling bias and confounding variables, in addition to both direction and magnitude of any potential bias	

* Criteria 1, 2, and 9 are based on the STROBE Statement. Criteria 3, 4, 5, 6, 7 and 8 are based on appraisal tool tailored to cross-sectional studies adapted from Guyatt, Sackett and Cook (2002).

SECTION 3

A copy of the instructions for authors from Journal of Traumatic Stress

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Impact Factor: 2.083

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1. The *Journal of Traumatic Stress* accepts submission of manuscripts online at:

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2. Three paper formats are accepted. All word counts should include references, tables, and figures. *Regular articles* (no longer than 6,000 words) are theoretical articles, full research studies, and reviews. Purely descriptive articles are rarely accepted. In special circumstances, the editors will consider longer manuscripts (up to 7,500 words) that describe complex studies. Authors are requested to seek special consideration prior to submitting manuscripts longer than 6,000 words. *Brief reports* (2,500 words) are for pilot studies or uncontrolled trials of an intervention, case studies that cover a new area, preliminary data on a new problem or population, condensed findings from a study that does not merit a full article, or methodologically oriented papers that replicate findings in new populations or report preliminary data on new instruments. *Commentaries* (1,000 words or less) cover responses to previously published articles or, occasionally, essays on a professional or scientific topic of general interest. Response commentaries, submitted no later than 8 weeks after the original article is published (12 weeks if outside the U.S.), must be content-directed and use tactful language. The original author is given the opportunity to respond to accepted commentaries.

3. The *Journal* follows the style recommendations of the 2010 *Publication Manual of the American Psychological Association* (APA; 6th). Manuscripts should use non-sexist language. Files must be formatted using letter or A4 page size, 1 inch (2.54 cm) margins on all sides, Times New Roman 12 point font, and double-spacing for text, tables, figures, and references.

4. The title page should include the title of the article, the running head (maximum 50 characters) in uppercase flush left, author(s) byline and institutional affiliation, and author note (see pp. 23-25 of the APA manual).

5. An abstract no longer than 200 words follows the title page on a separate page.

6. Format the reference list using APA style: (a) begin on a new page following the text, (b) double-space, (c) use hanging indent format, (d) italicize the journal name or book title, and (e) list alphabetically by last name of first author. If a reference has a Digital Object Identifier (DOI), it must be included as the last element of the reference.

Journal Article

Kraemer, H.C. (2009). Events per person-time (incidence rate): A misleading statistic? *Statistics in Medicine, 28*, 1028–1039. doi: 10.1002/sim.3525

Book

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Book Chapter

Meehl, P. E. (2006). The power of quantitative thinking. In N.G. Waller, L.J. Yonce, W.M. Grove, D. Faust, & M.F. Lenzenweger (Eds.), *A Paul Meehl reader: Essays on the practice of scientific psychology* (pp. 433–444). Mahwah, NJ: Erlbaum.

7. Tables and figures should be formatted in APA style. *Count each full-page table or figure as 200 words and each half-page table or figure as 100 words.* Tables should be numbered (with Arabic numerals) and referred to by number in the text. Each table and figure should begin on a separate page. Only black and white tables and figures will be accepted (no color). Figures (photographs, drawings, and charts) should be numbered (with Arabic numerals) and referred to by number in the text. Place figures captions at the bottom of the figure itself, not on a separate page. Include a separate legend to explain symbols if needed. Figures should be in Word, TIFF, or EPS format.

8. Footnotes should be avoided. When their use is absolutely necessary, footnotes should be formatted in APA style and placed on a separate page after the reference list and before any tables.

9. The *Journal* uses a policy of **unmasked review**. Author identities are known to

reviewers; reviewer identities are not known to authors. During the submission process, authors may request that specific individuals not be selected as reviewers; the names of preferred reviewers also may be provided. Authors may request blind review by contacting jots@ucsf.edu prior to submission in order to provide justification and obtain further instructions.

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11. Reports of randomized clinical trials should include a flow diagram and a completed CONSORT checklist (available at http://consort-statement.org/resources/downloads). The checklist should be designated as a "Supplementary file not for review" during the online submission process. As of 2007, the *Journal of Traumatic Stress* now follows CONSORT Guidelines for the reporting of randomized clinical trials. Please visit http://consort-statement.org for information about the consort standards and to download necessary forms.

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SECTION 4

The Impact of Inter-Parental Conflict, Parental Mental Health, the Parent-Child Relationship and Features of the Conflict on Child Well-Being

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CONTENTS

ABSTRACT

This study employed path analysis to explore the relationship between inter-parental conflict and child well-being mediated by parental mental health and the parent-child relationship. The moderating roles of type of conflict, child as cause of conflict, and nature of conflict resolution were also examined. The sample consisted of 5337 nine-year old children involved in the Growing up in Ireland study. Analyses indicated that child well-being was largely unrelated to parental mental health, type of conflict, child as cause of conflict and conflict resolution. Inter-parental conflict significantly predicted child well-being for fathers only, mediated by the father-child relationship. For both caregivers, the parent-child relationship, and in particular parent-child conflict, exerted the greatest effect on the model.

(Limit 120 words)

Keywords: Inter-parental conflict; marital conflict; parental mental health; parent-child relationship; child well-being; child adjustment

INTRODUCTION

A growing body of literature has reported on how adversities experienced in early life can have a negative impact on adjustment during childhood and throughout the lifespan (e.g. Anda, Felitti, Walker, Whitfield, Bremner, Perry et al, 2006). A widespread adversity described as detrimental to both individual functioning and family systems is parental conflict (e.g. Buehler, Anthony, Krishnakumar, Stone, Gerard & Pemberton, 1997; Holt, Buckley & Whelan, 2008). Parental conflict incorporates a variety of negative marital interactions, ranging from arguing, to threatening behaviour, to physical, psychological or sexual violence. Research has indicated that exposure to parental conflict can impact on child functioning in a number of ways, including through its interaction with parental mental health (e.g. Cummings & Davies, 1994), the parent and child relationship (e.g. Miller, Cowan, Cowan & Hetherington, 1993) and when the child is the cause of the conflict (e.g. Grych & Fincham, 1993). A limited body of research has also explored the impact of conflict resolution on this relationship (e.g. Cummings, Ballard, El-Sheikh & Lake, 1991). Inter-parental conflict is highly comorbid with a variety of factors associated with child difficulties, making it difficult to draw definitive conclusions as to the precise nature of this link (Zarling, Taber-Thomas, Murray, Knuston, Lawrence & Valles et al, 2013).The literature has failed to establish a consistent process through which exposure to conflict in the family impacts on child well-being, illustrating the complex nature of the interaction between the variables identified. The aim of the present study is to explore the integrative impact of several variables identified as relevant in empirical research and theoretical models on child outcomes.

Parental Conflict and Child Outcomes

A substantial body of empirical research has linked children who have been exposed to conflict in the home with a range of negative outcomes, including emotional difficulties, and behavioural problems (e.g. Cummings & Davies, 1994; Kernic & Wolf, et al, 2003). Buehler et al (1997) reported a moderate effect size in their meta-analysis of 68 studies that examined the relationship between inter-parental conflict and problem behaviours in children and adolescents. A more recent meta-analysis by Evans, Davies and DiLillo (2008) also reported a moderate effect size between exposure to domestic conflict and childhood internalizing and externalising symptoms. A strong association was observed with childhood trauma symptoms, although this was based on only six studies. Similarly, in a review of the literature between 1995 and 2006 on the impact of exposure to domestic violence on children, Holt et al (2008) concluded that children living with domestic violence are at increased risk of developing emotional and behavioural problems. Long-term effects of exposure have also been identified. For example, individuals who were exposed to domestic violence as children have been reported as two to four times more likely to report alcohol abuse, drug abuse and depression in adulthood (Dube, Anda, Felitti, Edwards & Williamson, 2002).

Various aspects of the family environment and specific features of the conflict have been explored in an effort to better understand the factors that mediate and moderate the relationship between parental conflict and child adjustment. Research suggests that inter-parental conflict may impact on the child along two main pathways: indirect (relational) and direct (child focused) (Sturge-Apple, Skibo

& Davies, 2012). The *indirect pathway* hypothesizes that the child is impacted indirectly through changes in family functioning as a product of the conflict, such as through its effect on parental well-being and parenting practices (Cox, Paley & Harter, 2001; Krisnakumar & Buchler, 2000). Parental mental health (Zarling et al, 2013) and the parent-child relationship (Kaczynski, Lindahl, Malik & Laurenceau, 2006) are proposed as having potential mediating effects within this model. The *direct pathway* proposes that the conflict impacts on the child directly. Conflict type (for example, if it is highly hostile) (Sturge-Apple et al, 2012), child as the source of the conflict (Grych & Fincham, 1993), how s/he appraises the conflict (Cumming & Davies, 2002; Grych & Fincham, 1990) and how the conflict is resolved (Cummings, Ballard, El-Sheikh & Lake, 1991) have been proposed as moderators along this pathway. Consideration of any model requires the review of the interaction of both mediation and moderating variables along both direct and indirect pathways. These are discussed below, beginning with the meditational factors.

Mediators of the Relationship between Inter-parental Conflict and Child Outcomes

The parent-child relationship and the psychological well-being of parents have been identified as potential mediators along the pathway between inter-parental conflict and child well-being. Marital conflict may negatively impact on parenting and the parent-child relationship increasing child vulnerability to psychological difficulties. Shelton and Harold (2008) indicated that children tend to appraise their relationship with parents as more hostile and insecure when in the context of inter-parental conflict. Hetherington and Clingempeel (1992) reported marital conflict to

be associated with harsh, coercive parenting and Zarling et al (2013) identified harsh discipline as a mediator in the relationship between exposure to inter-parental violence and externalising behaviour. Tschann, Johnston, Kline and Wallerstein (1989) also indicated that children exposed to martial conflict were at increased risk of developing externalising problems when there were difficulties in the parent-child relationship. Kaczynsk et al (2006) found that parenting fully mediated the relationship between martial conflict and both internalizing and externalising behaviours in children. Studies showing mediation lend support to the *'spill-over hypothesis'* which proposes that emotion from the conflict between parents 'spills over' to influence interactions between the parent and child (Grych, 2002). However, other research has suggested a compensatory effect of the conflict, proposing that mothers exposed to domestic violence may compensate for the conflict by being more effective parents (Levendosy et al, 2003).

Marital conflict may increase vulnerability to poor parental mental health (Cascardi & O'Leary, 1992) and parental depressive symptoms have been associated with hostile marital interactions (Cummings & Davies, 1994; Downey & Coyne, 1990). A convincing body of evidence links children exposed to both inter-parental conflict and parental psychopathology with an increased risk of developing psychological problems. For example, Essex, Klein, Cho, & Kraemer (2003) indicated that children exposed to both marital conflict and parental depression appear to have a greater likelihood of displaying behavioural difficulties than children exposed to only one or the other. Similarly, Zarling et al (2013) reported that maternal psychological functioning and child appraisals mediated the link between exposure to marital conflict and children's outcomes, although only as a

factor in the development of children's internalizing, but not externalising symptoms. An indirect association between parental depression and child externalising behaviours within the context of the marital relationship and type of parenting has also been observed in the literature (Miller, Cowan, Cowan & Hetherington,1993).

The relationship between the parent-child relationship, parental mental health and inter-parental conflict can be understood within an attachment and emotional security context. Both the marital and parent-child relationships are perceived as attachment relationships which aid emotional regulation and foster a secure base (Bowlby, 1969). The *emotional security hypothesis* proposes that the child achieves emotional security by both developing a secure attachment with caregivers and by exposure to a secure relationship between caregivers (Davies & Cummings, 1994). Marital conflict compromises child emotional security by disrupting effective parenting, reducing emotional availability, impacting on parental psychological wellbeing, and disturbing the formation of the parent-child attachment relationship (El-Sheikh & Elmore-Staton, 2004; Harold & Conger, 1997). For example, Shelton & Harold (2008) found that increased inter-parental conflict and adult relationship insecurity were associated with parental depressive symptoms at one-year follow-up. They also reported an association between inter-parental conflict and child appraisals of parental rejection at a further one-year follow-up. Perceived paternal rejection was associated with child internalizing symptoms and perceived maternal rejection was associated with child externalising problems.

Moderators of the Relationship between Inter-parental Conflict and Child Outcomes

Research suggests that type of conflict, child as cause of conflict and nature of conflict resolution may moderate the relationship between inter-parental conflict and child well-being. The type of conflict and how it is expressed has been shown to influence the impact of the conflict on child outcomes. Destructive conflict that is angry and hostile may increase both internalizing and externalizing problems (Cummings & Davies, 1994). Sturge-Apple et al (2012) reported marital hostility, contempt and withdrawal to be associated with higher levels of child problematic outcomes, than conflict characterized by anger alone. In addition, research suggests that conflict between parents that is specifically related to the child may also exert a greater negative impact on child well-being (Sturge-Apple et al, 2012). Grych and Fincham's (1990) cognitive–contextual model proposes that the impact of the conflict on the child is dependent both on the expression of the conflict and the child's interpretation of its meaning in relation to their well-being. Children who view themselves as responsible for the conflict may experience guilt, shame, sadness (Grych, Harold & Miles, 2003) and fear (Grych & Fincham, 1993). Children's appraisals of marital violence have also been related to symptoms of anxiety and depression (Zarling et al, 2013).

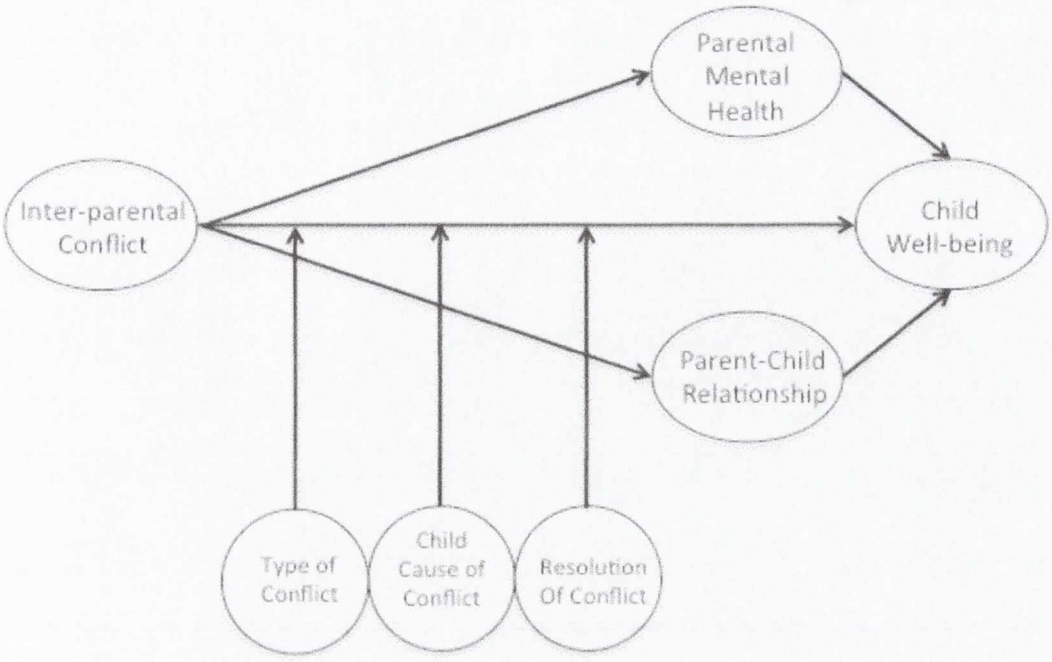
Although research on parental management and resolution of marital conflict is limited, studies suggest that how the conflict is resolved may moderate the impact of the conflict on child well-being. For example, Cummings, Ballard, El-Sheikh and Lake (1991) reported that resolution characterized by hostility, withdrawal and

submission elicited negative emotional responses in children, while children responded more positively to conflicts ending in an apology or compromise. Goeke-Morey, Cummings and Papp (2007) proposed that constructive resolution, such as positive emotionality or apology, changes the meaning of conflict and, according to emotional security theory, children consequently interpret the meaning of the conflict as less threatening to their own well-being and the well-being of their family.

The Present Study

Contemporary research has advanced and extended understanding of the role family processes play on child functioning. Various features of the conflict between parents and their impact on the family system have been explored. However the relationship is complex, making it difficult to draw definitive conclusions as to the precise nature of this link (Zarling et al, 2013). Given the prolific nature of inter-parental conflict and its potential to harm both the child and the family system, it is clinically and theoretically important to identify factors that place children at risk of, and buffer them against, emotional and behavioural problems. The literature indicates that the impact of inter-parental conflict on child well-being needs to be considered within an integrative model of both family and conflict-related factors. The present study aims to extend knowledge in this area by exploring potential mediators and moderators of exposure within a single conceptualised model. This hypothesised model is presented in Figure 1.

Figure 1. Hypothesised Model



This model hypothesises that parental mental health and the parent-child relationship mediate the relationship between inter-parental conflict and child outcomes. Type of conflict, child as cause of conflict, and how the conflict is resolved were hypothesized as moderators of the relationship. The following research questions will be addressed:

1. Is there a relationship between inter-parental conflict and child well-being?
2. Do parental mental health and the parent-child relationship mediate the relationship between inter-parental conflict and child well-being?
3. Do type of conflict, child as cause of conflict and nature of conflict resolution moderate the relationship between inter-parental conflict and child well-being?

METHOD

Participants

The sample was derived from a large, nationally representative longitudinal study of nine-year-old children and their families, the Growing Up in Ireland (GUI) study. The GUI aimed to investigate the well-being of children in Ireland and to identify factors that influence their development. Data was collected from both primary and secondary caregivers. The primary caregiver was self-identified as the person who provided most care to, and knew most about, the study child. Caregivers were either the biological parent, step-parent, or the partner of the other caregiver (i.e. other relatives/non relatives were excluded). These criteria were specified as they reflected the majority of family structures within the sample. In almost all cases, the primary caregiver was the child's mother, and secondary caregiver the child's father. Therefore the terms mother and father will be used in place of primary and secondary caregivers throughout this report. A family was included in the study only when data from both parents was available in relation to the study child. After the removal of missing data, data from 5337 children and their families were eligible for inclusion.

The majority (99%) of mothers were the biological mother of the study child, with an average age of 40.4 years (SD 4.76). Most (97%) of the fathers were the biological father of the study child. The other 3% were step-fathers or partners of the mother. The average age of the father was 42.1 years (SD 4.93). Fifty per cent of study children were female.

Procedure

The Growing Up in Ireland study was carried out under ethical approval granted by the Research Ethics Committee of the Health Research Board. The study gathers developmental data on two nationally representative cohorts of children: a nine-month-old sample (Infant Cohort) and a nine-year-old sample (Child Cohort). The Infant Cohort was followed over a further two time points (three years and five years) and the nine-year-old Cohort was followed aged eleven years. The present study utilised data from the nine-year old cohort, taken from the first wave of data collection in 2007/2008. The data required for the study was held on a non-anonymised microdata file. This data could only be accessed through the Department of Children and Youth Affairs and the Director General of the Central Statistics Office with the requirement that one of the researchers was appointed as an Officer of Statistics by the Central Statistics Office and therefore subject to the legislation and requirements laid out in the Statistics Act (1993).

A team of researchers, led by the Economic & Social Research Institute (ESRI) and Trinity College Dublin, carried out the research. Data collection for the Child Cohort involved randomly sampling schools through the Irish primary school network. Principals from the target sample of schools were mailed an introductory letter, followed by a telephone call and then a meeting was arranged with an interviewer to discuss the details of the survey. 910 primary schools were recruited (82% response rate). Nine-year-old children who fell within scope for inclusion in the study (i.e. born between 1st November 1997 and 31st October 1998) were identified. A sample of children was then selected from this list using a random

number table. School Principals issued children selected for inclusion in the survey with information packs and consent forms for themselves and their parents to sign and return to the school. Consent to participate in the study was given by 57% (n=8570) of children and their parents. Participants were asked to complete a battery of questionnaires that covered many topics including child and parent health, relationships and emotional well-being. Data was collected via a structured questionnaire, administered by a trained interviewer. Respondents were given the option of self-completing a separate supplementary questionnaire which contained more sensitive questions. Only data from the households where data was available from both parents was utilized for the present study, resulting in a sample of 5337 children and their families.

Measures

The GUI study incorporated a variety of pre-existing, standardized measures within the Child Cohort questionnaires. As the present research utilized data from the GUI database, it was restricted to using the questionnaires used in the GUI study. The following questionnaires were utilized as they were judged to be most appropriate to the research aims:

Child psychological functioning was measured by the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). The SDQ is a 25-item behavioural screening questionnaire. It consists of five subscales, each with five items: emotional symptoms; conduct problems; hyperactivity; peer relationship problems; and prosocial behaviour. All subscales, with the exception of prosocial behaviour, are summed to provide a total difficulties score (range 0 to 40). Mothers

completed the SDQ in relation to the study child. The SDQ is widely used and a review of several studies by Stone (2010) has reported good internal consistency (Cronbach's alpha .53 to .84), test-retest reliability (.72 - .86) and capacity to discriminate (.64 to .91). It also shows good concurrent validity with other measures of psychopathology (Goodman, 1997; Goodman & Scott, 1999).

Inter-parental conflict was measured using the seven-item short form of the Dyadic Adjustment Scale (DAS-7; Sharpley & Rogers, 1984). The DAS-7 is a self-report measurement of marital satisfaction, derived from the original 32-item Dyadic Adjustment Scale (Spanier, 1976). The scale comprises seven items across three subscales and categorises marriages as either distressed or adjusted. An overall satisfaction score is generated by summing all items (range 0 to 36). Scores of less than 21 indicate marital distress. Several studies have provided support for the reliability and validity of the DAS-7. It has acceptable internal consistency (.75 to .82) and good discriminant validity (Hunsley, Best, Lefebvre & Vito, 2001; Hunsley, Pinsent, Lefebvre, James-Tanner & Vito, 1995; Sharpley & Rogers, 1984). The DAS-7 was completed by both parents.

Three further items were used to assess *type of conflict*, *child as cause of conflict* and *conflict resolution*. Parents were asked to rate on a five-point likert-scale (almost never/never to almost always/always) how often they shout or yell at each other; throw something at each other; push, hit or slap each other. They were also asked to rate on a five-point likert-scale (never to most days) how often they would argue about the child(ren). Conflict resolution was measured on a five-point likert-

scale (almost never/never to almost always/always), with parents asked how often they ended an argument by compromise; apologise; change the subject; agree to discuss the issue later; agree to disagree; use affection (hug) or make a joke about it; ignore or refuse to speak anymore, walk away; leave the room or leave the house.

Parental depression was measured by the Center for Epidemiological Studies Depression Scale (CESD-8; Melchior, Huba, Brown & Reback, 1993). The eight-item short version of the CESD-8 was completed by both parents to provide a self-report measure of depressive symptoms. A total score is obtained by summing the eight items (range 0 to 24). A clinical cut off score of 7 or greater identifies those at risk of clinical depression. The scale shows high internal consistency (.81 to .85) (Bracke, Levecque & Van de Velde, 2008) and good concurrent validity (.54 with BPI depression scale) (Melchior, Huba, Brown & Reback, 1993).

The parent/child relationship was measured by the Pianta Child-Parent Relationship Scale (CPR-S; Pianta, 1992). The CPR-S consists of 30 items and measures positive and negative aspects of the child-parent relationship, rated by both parents. It has three subscales: positive aspects of the relationship or closeness (10 items); conflicts (12 items); and dependence (8 items). Closeness ranged from a low of 10 to a high of 50. Conflict ranged from 12 to 60 and dependence from 4 to 20. There are no published norms or cut offs for this 30-item scale (Nixon, 2012). Pianta (1992) reported alphas ranging from .50 to .83 and Zhang (2013) reported alphas ranging from .71 to .82.

ANALYSES

Path analysis in Amos 22.0 was used to test the hypothesized model. Modification indices were examined to ascertain the best fit of the model to the data, based on the premise that the proposed modifications were justifiable in terms of face validity. The modified models were then compared to the original model using a range of indices (Hoyle & Panter, 1995). The goodness of fit for each model was assessed using chi-square (X^2); the Adjusted Goodness of Fit Index (AGFI; Tanaka & Huba, 1989); and the Comparative Fit Index (CFI; Bentler, 1990). The model fit is interpreted as better when the chi-square values are smaller and AGFI values are larger (AGFI value of 1 indicates a perfect fit). A CFI value of greater than 0.95 is viewed to reflect an acceptable model fit (Hu & Bentler, 1999). The Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) with 90% confidence intervals was also reported. A value below 0.05 reflects a close fit and values up to 0.08 signify acceptable errors of approximation in the population (Joreskog & Sorbom, 1993). The Parsimony Goodness of Fit Index (PGFI; Mulaik, James, Van Alstine, Bennett, Lind & Stillwell, 1989) was used to assess the quality of each model relative to each of the other models. This index takes into consideration the number of parameters being estimated, with the most parsimonious model denoted by the largest value closest to 1.

RESULTS

Correlational analyses (Tables 1 and 2) produced effect sizes of close to zero between child as cause of conflict, type of conflict (shout/yell; throw; push/slap) and conflict resolution (compromise; apologise; change subject; discuss later; agree to

disagree; affection; ignore) and child well-being, indicating almost no relationship between these variables. Data on these three variables was missing for 2574 participants. Therefore, given the notably small magnitude of these relationships, and the limited influence they exert on the model, these variables were excluded from the path analysis, thus avoiding reducing the sample size by almost 50%. The model to be tested was adjusted and this revised model is shown in Figure 2. Pearson's correlations amongst the remaining main study variables are reported in the technical appendix (page 98). Bonferonni corrections were calculated to adjust for number of tests (0.05 / 105 tests = 0.00048). Associations between the variables were in the expected direction and justified path analysis.

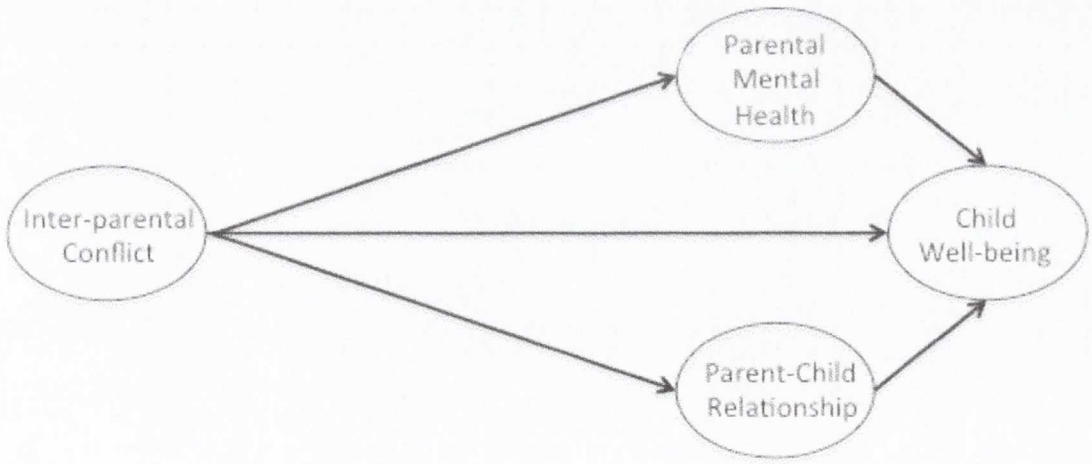
Table 1. Correlations between Type of Conflict, Child as Cause of Conflict and Conflict Resolution by Child Well-being for Mothers

Variable	SDQ E	SDQ C	SDQ H	SDQ Pe	SDQ PS
Child as cause	.097	.176	.089	.050	-.046
Shout/yell	.074	.132	.069	.042	-.037
Throw	.051	.045	.012	-.005	-.002
Push/slap	.038	.052	.021	-.021	.009
Compromise	-.047	-.020	-.029	-.048	-.033
Apologise	-.052	-.021	-.036	-.014	.019
Change subject	-.028	-.001	.043	.003	-.039
Discuss later	-.070	-.020	-.017	-.046	-.015
Agree to disagree	-.039	-.020	-.014	-.007	-.005
Affection	-.017	-.032	-.014	-.032	.025
Ignore	.042	.079	.057	.017	-.033

Table 2. Correlations between Type of Conflict, Child as Cause of Conflict and Conflict Resolution by Child Well-being for Fathers

Variable	SDQ E	SDQ C	SDQ H	SDQ Pe	SDQ PS
Child as cause	.042	.143	.076	0.12	-.037
Shout/yell	.028	.084	.016	.023	.008
Throw	-.002	.022	-.028	.012	.017
Push/slap	-.024	-.007	-.032	-.002	.025
Compromise	.001	-.004	-.012	.021	-.014
Apologise	.003	-.037	-.028	-.020	.018
Change subject	.030	.026	.017	.015	-.029
Discuss later	-.014	-.026	-.009	.003	-.001
Agree to disagree	.024	-.040	-.052	.012	-.017
Affection	.001	-.006	-.012	-.002	.023
Ignore	.030	.054	.032	.009	-.002

Figure 2. Revised Hypothesized Model



Descriptive Statistics

The means and standard deviations for the study variables are presented in Table 3. SDQ clinical cut-off values (Goodman, 2014) placed 9.6% (n=515) of study children at clinical risk on the SDQ total score. Study children were at greatest risk of emotional difficulties, with 19% exceeding the cut-off for clinical risk; Male study children rated significantly higher on the conduct ($t(5299.11)=3.81$, $p<0.001$) and hyperactivity ($t(5289.22)=9.66$, $p<0.001$) subscales than female study children, who rated significantly higher on the emotional ($t(5315.54)=-5.99$, $p<0.001$) and prosocial ($t(5136.04)=-11.22$, $p<0.001$) subscales. No significant differences were observed on the peer subscale ($t(5335)=0.66$; $p=0.5$). Overall, males were rated as having significantly higher difficulties than females ($t(5335)=3.67$, $p<0.001$).

5.6% (n=300) of mothers and 3.7% (n=200) of fathers met the cut-off for risk of clinical depression. Although overall ratings of marital satisfaction were high, 19.6% (n=1046) of mothers and 20.5% (n=1094) of fathers met the cut-off for martial distress. Gender of the study child did not influence caregiver depression (mothers: $t(5335)=0.44$, $p = 0.66$; fathers: $t(5335)=1.05$, $p = 0.29$) or martial satisfaction ratings (mothers: $t(5335)=1.76$, $p = 0.08$; fathers: $t(5335)=1.02$, $p = 0.31$) Published cut-offs for the Pianta subscales are not available. No significant gender differences were observed on the Pianta conflict subscale, although parents were more likely to rate the female study child higher on dependence (mothers: $t(5335)=-6.24$, $p<0.001$; fathers: $t(5335)=-2.75$, $p<0.01$). Female study children were also rated significantly higher on closeness by mothers ($t(5287)=-10.50$, $p<0.001$).

Table 3. Means and Standard Deviations for Study Variables

Variable	Mean (SD)	Clinical cut-off	Clinical Risk
SDQ Emotional	1.88 (1.89)	>= 4	19.1%
SDQ Conduct	1.14 (1.33)	>= 3	15%
SDQ Hyperactivity	2.81 (2.34)	>= 6	13.8%
SDQ Peer	1.02 (1.34)	>=3	12.7%
SDQ Prosocial	8.87 (1.42)	<= 5	3.2%
SDQ Total	6.85 (4.69)	>=14	9.6%
CES-D PCG	1.81 (2.99)	>=7	5.6%
CES-D SCG	1.38 (2.27)	>= 7	3.7%
DAS-7 PCG	24.85 (5.28)	< 21	19.6% (marital distress)
DAS-7 SCG	24.82 (5.21)	<21	20.5% (marital distress)
Pianta Conflict PCG	21.39 (8.21)		
Pianta Closeness PCG	44.8 (3.81)		
Pianta Dependence PCG	10.01 (3.34)		
Pianta Conflict SCG	21.72 (7.63)		
Pianta Closeness SCG	43.84 (4.1)		
Pianta Dependence SCG	11.88 (2.76)		

Model Testing

Models were tested separately for both parents. Covariance paths were added to the model on the basis of modification indices. Models were then modified by removing the path with the lowest value before a new model was specified and estimated. This process continued until three models were identified: the best fitting model; the most parsimonious model; and a model that balanced fit and parsimony.

Maternal Model

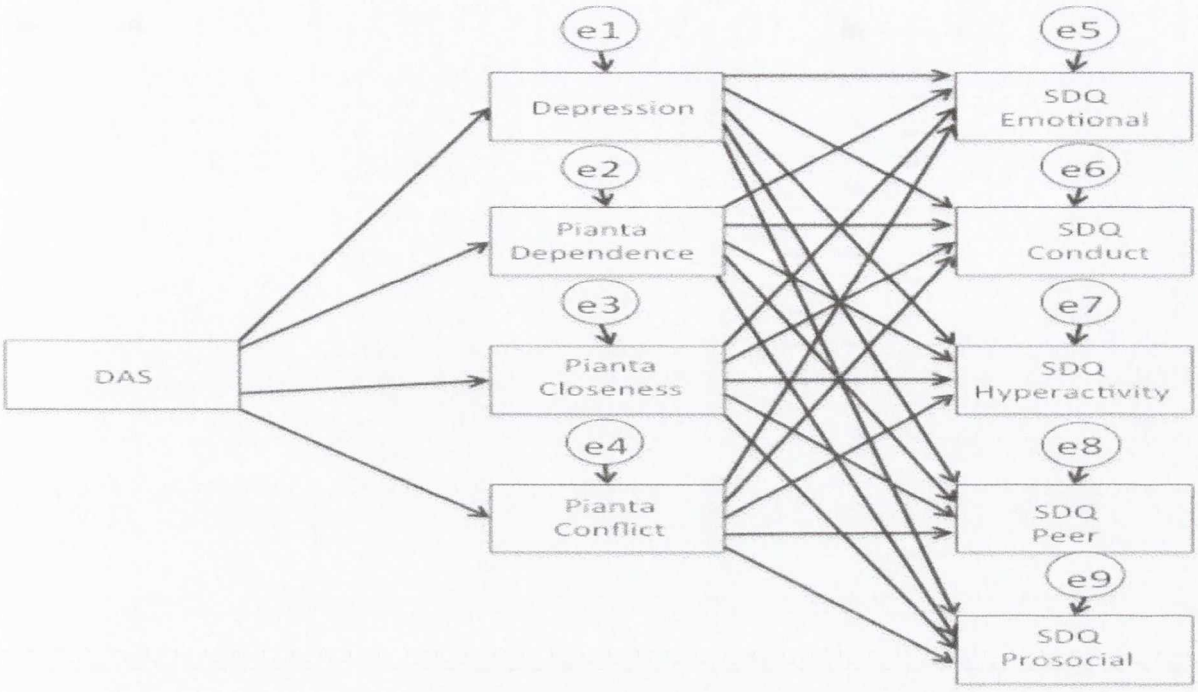
The fit indices for the models for the mothers' data are presented in Table 4. In the revised hypothesized model (Figure 3), maternal mental health and parent-child dependence, closeness and conflict were hypothesised as mediators of the relationship between inter-parental conflict and child well-being, as represented by the five subscales of the SDQ (emotional; conduct; hyperactivity; peer; prosocial). Fit indices indicated that the model was a poor fit to the data (X^2=1622.73; RMSEA = 0.12; CFI = 0.798; AGFI = 0.847) and parsimony was low (PGFI = 0.036). This model was therefore rejected. Based on their small, standardized regression coefficients, inter-parental conflict and maternal depression were removed from further analysis and only the parent-child variables were included. Model 2 provided the best fit to the data (X^2 =9.06; RMSEA = 0.019; CFI = 0.999; AGFI = 0.995), although it was the least parsimonious model (PGFI = 0.083). The fit of model 3 was also good (X^2 =160.58; RMSEA = 0.056; CFI = 0.979; AGFI = 0.970), with greater parsimony (PGFI = 0.248) than model 2. Model 4 was the most parsimonious model (PGFI = 0.460), with adequate fit to the data (X^2=573.24; RMSEA = 0.078; CFI = 0.923; AGFI = 0.944). The relevance of the model to the data was an important

factor in this research, and, given the small differences in fit index scores between models 2, 3 and 4, model 4, the most parsimonious model, was accepted and model 3 rejected. Model 4, with standardized path coefficients, is presented in Figure 4. Non-significant paths were removed.

Table 4. Fit Indices for Hypothesised Models for Mothers

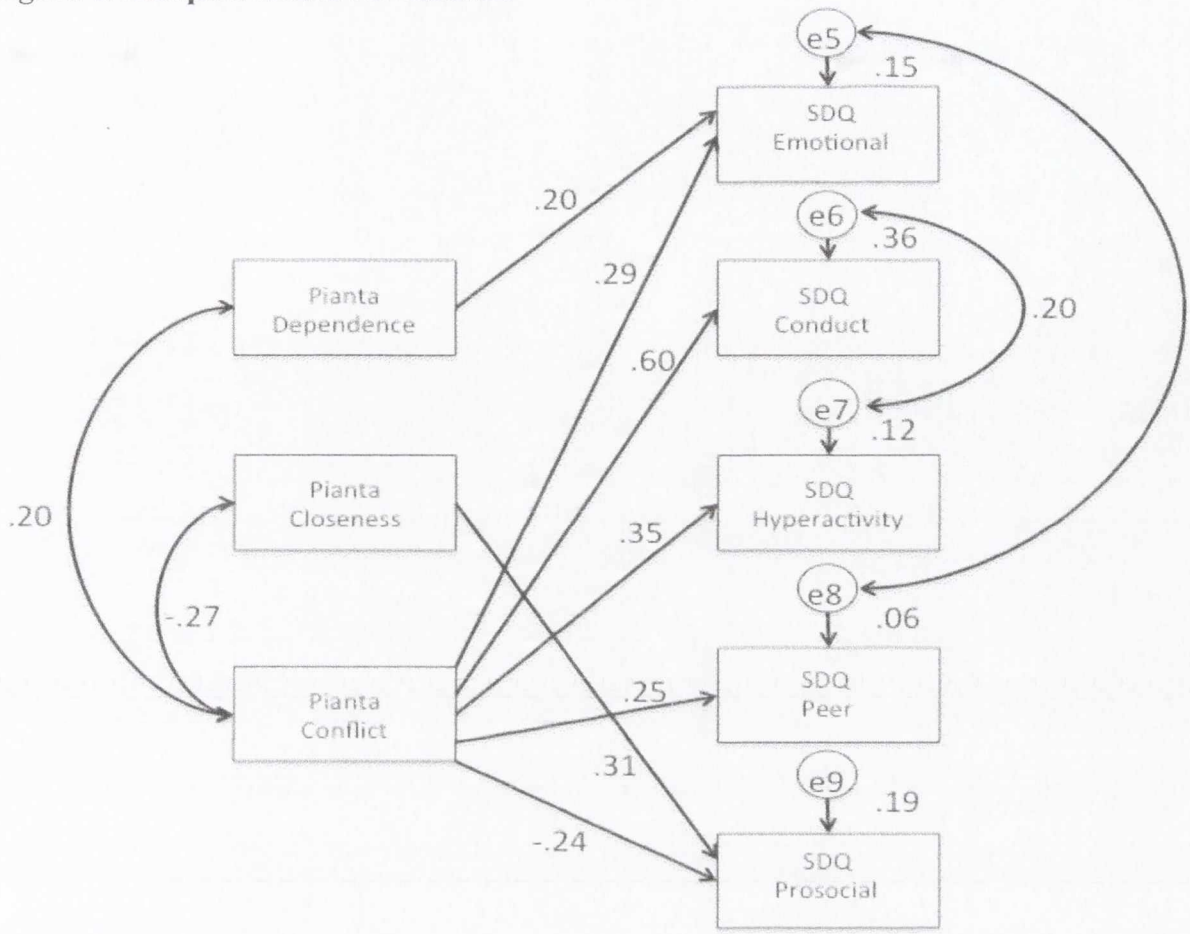
	Revised Hypothesised Model	Model 2 (Best fit)	Model 3 (Balance)	Model 4 (Most parsimonious)
X^2 (df) p	1622.73 (21) <.001	9.06 (3) <.05	160.58 (9) <.001	573.24 (17) <.001
AGFI	0.847	0.995	0.970	.944
CFI	0.798	0.999	0.979	0.923
RMSEA	0.120	0.019	0.056	0.078
(90% CI)	(0.115 - 0.125)	(0.006 – 0.035)	(0.049 – 0.064)	(0.073 -0.084)
PGFI	0.360	0.083	0.248	.460

Figure 3. Revised Hypothesised Model for Mothers



The path analysis suggested that inter-parental conflict was not significantly related to maternal mental health or the mother-child relationship. Further, maternal depression did not significantly correlate with child well-being. The accepted model did support a relationship between the mother-child relationship and child outcomes. Conflict in the mother-child relationship emerged as the strongest predictor of child well-being, with the strongest relationship found with conduct problems ($\beta = 0.60$). Mother-child conflict also predicted hyperactivity ($\beta = 0.35$); emotional problems ($\beta = .29$); peer difficulties ($\beta = 0.25$); and prosocial behaviour ($\beta = -0.24$). Closeness in the mother-child relationship predicted prosocial behaviour ($\beta = 0.31$). Dependence in the mother-child relationship predicted emotional problems (($\beta = 0.20$).

Figure 4. Accepted Model for Mothers



Paternal Model

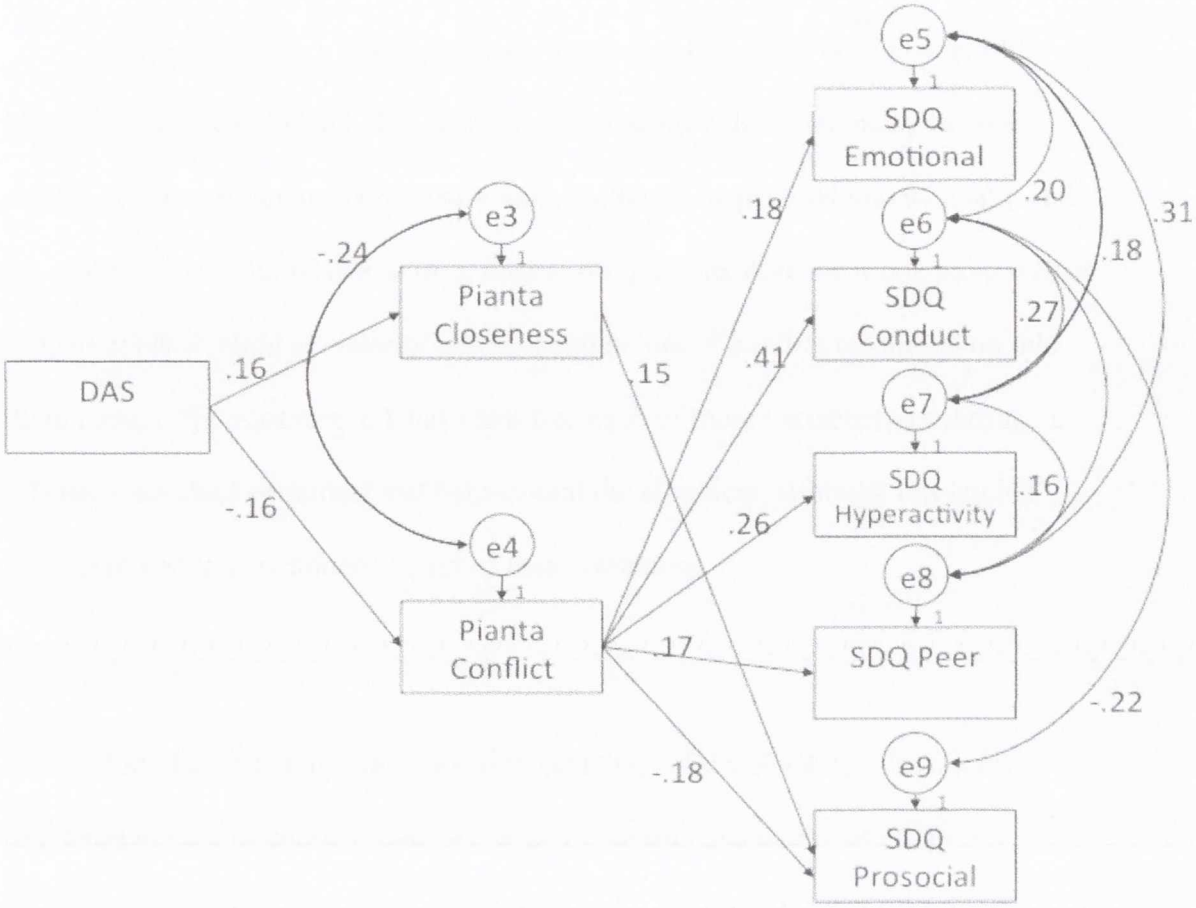
The fit indices for the models for the fathers' data are presented in Table 5. The revised hypothesised model tested paternal mental health and parent-child dependence, closeness and conflict as mediators of the relationship between inter-parental conflict and child well-being. Although parsimony in this model was good (PGFI = 0.341), fit indices indicated that the model was a poor fit to the data (X^2 =2982.58; RMSEA = 0.163; CFI = 0.488; AGFI = 0.722). This model was therefore rejected. The standardized regression coefficients for paternal depression were small and therefore this variable was removed from further analysis. Model 2 provided the best fit to the data (X^2=13.46; RMSEA = 0.006; CFI = 1.00; AGFI = 0.998), although it was the least parsimonious model (PGFI = 0.244). This model was

therefore rejected. Parent-child dependence did not add significantly to the model and was removed at this stage. Model 3 provided a more balanced model. The fit of the model to the data was good (X^2 =89.68; RMSEA = 0.039; CFI = 0.983; AGFI = 0.985), with relatively good parsimony (PGFI = 0.277). Model 4 was more parsimonious than model 3 (PGFI = 0.329), with adequate fit to the data (X^2=273.88; RMSEA = 0.064; CFI = 0.944; AGFI = 0.962). Model 4 was therefore accepted and model 3 rejected. Model 4, with standardized path coefficients, is presented in Figure 5. Non-significant paths were removed.

Table 5. Fit Indices for Hypothesised Models for Fathers

	Revised Hypothesised Model	Model 2 (Best fit)	Model 3 (Balanced)	Model 4 (Most parsimonious)
X^2 (df) p	2982.58 (21) <.001	13.46 (11)=.264	89.68 (10) <.001	273.88 (12) <.001
AGFI	0.722	0.998	0.985	0.962
CFI	0.488	1.00	0.983	0.944
RMSEA (90% CI)	0.163 (0.158-0.168)	0.006 (0.000-0.017)	0.039 (0.032-0.046)	0.064 (0.057-0.071)
PGFI	0.341	0.244	0.277	0.329

Figure 5. Accepted Model for Fathers



The path analysis for the fathers' data suggested that inter-parental conflict was significantly related to the father-child relationship. Satisfaction in the marital relationship predicted father-child closeness. Less martial satisfaction predicted greater conflict in the father-child relationship. The magnitude of these relationships was small. Conflict in the father-child relationship emerged as the strongest predictor of child well-being, with the strongest relationship found with conduct problems (β = 0.41). Father-child conflict also predicted hyperactivity (β = 0.26); emotional problems (β = 0.18); peer difficulties (β = 0.17); and prosocial behaviour (β = -0.18). Closeness in the father-child relationship predicted prosocial behaviour (β = 0.15). Paternal depression did not significantly correlate with child well-being.

DISCUSSION

Using data from a large, nationally representative study of nine-year old children residing in Ireland, this study aimed to explore the relationship between inter-parental conflict and child well-being, mediated by parental mental health and the parent-child child relationship. It further sought to explore the moderating role of type of conflict, child as cause of conflict, and nature of conflict resolution on this relationship. Previous research has identified each of these variables as exerting an influence on child emotional and behavioural development, although few studies have explored the combined impact of these variables.

Initial correlational analyses indicated that child well-being was largely unrelated to type of conflict, child as cause of conflict and nature of conflict resolution for both caregivers. It was therefore not appropriate to test for moderation and these variables were excluded from further analysis. The research then sought to determine whether a direct relationship existed between inter-parental conflict and child well-being. Correlations failed to find evidence to support this relationship. Finally, parental mental health and the parent-child relationship were examined as predictors of child outcome. Parental mental health failed to emerge as a significant predictor. An indirect pathway was observed between inter-parental conflict and child well-being in the fathers' model, mediated by father-child conflict and closeness. Father-child conflict exerted the greatest effect on the model, predicting each of the child outcome measures. Dependence between father and child was not a significant predictor of child outcomes. Inter-parental conflict failed to exert a significant effect in the mother's model. Only the mother-child relationship

significantly predicted child outcomes. Conflict between the mother and child exerted the greatest effect on the model, predicting each of the child outcome measures. Of particular note is a strong, positive relationship between conflict and child conduct behaviour. Dependence between mother and child predicted emotional problems, while mother and child closeness positively impacted on prosocial behaviour.

This research has found only limited support for existing literature that indicates a relationship between inter-parental conflict and child well-being. An indirect relationship was observed between marital conflict and child outcomes, mediated by the father-child, but not the mother-child, relationship. Research suggests that mothers and fathers may demonstrate different parenting behaviours in the context of marital conflict. For example, Coiro and Emery (1998) indicated that disrupted parenting was greater for fathers involved in marital conflict and Lindahl and Malik (1999) reported fathers to be more likely to be critical or controlling towards their children when in conflicting spousal relationships. The findings from the present study lends partial support for the *'spill-over hypothesis'*, which proposes that emotion from the conflict between parents 'spills over' to the parent-child relationship (Grych, 2002), at least for the fathers in the sample. Children may then develop internalizing problems either through feelings of insecurity (Cummings & Davies, 2002) or externalizing behaviours through modeling (Bandura, 1973). The lack of a relationship between inter-parental conflict and the mother-child relationship may be understood from a compensatory perspective, whereby mothers exposed to conflict may compensate by being more effective parents (Levendosy et al, 2003). However, the findings do strongly support existing research that

documents the negative impact of disturbances in the parent-child relationship on child well-being. Ecological models of child adjustment identify child well-being as being influenced by a number of factors. Stressors not explored in the present study, such as economic situation or mother's physical illness, may have impacted on the mother-child relationship (rather than marital conflict) and may explain the patterns observed in this research.

The relatively small effect sizes across the findings and the absence of a relationship between inter-parental conflict and child outcomes for mothers may be a reflection of the nature of the population involved in the research. The present study utilized representative data from the general population (set within the parameters of age of child). In comparison to many studies conducted in this area, the present sample displayed relatively low levels of marital conflict, poor parental mental health and child emotional and behavioural difficulties. Previous research has identified marital dissatisfaction to be less influential than marital conflict in predicting child outcomes (Buehler et al, 1997). The relatively low levels of marital distress, poor parental mental health and child difficulties in this general population sample may not have been large enough to identify strong effects and therefore this may explain the absence of a relationship in the present study. It is also possible that children in the present sample may have been buffered from the influences of marital conflict by, for example, economic resources, sibling influences, or extended family support (Howell, 2011), factors not included in the present study. Additionally, the current study involved a relatively homogenous sample of nine-year old children. Research has suggested that the age of the child may influence how inter-parental conflict impacts on child outcomes. For example, Cummings, Schermerhorn, Davies, Goeke-

Morely and Cummings (2006) suggested a stronger relationship between marital conflict and adolescent well-being due to an increased likelihood of adolescents becoming more directly involved in the conflict and also having longer conflict exposure histories. All these factors should be taken into consideration when interpreting the results from this study.

Clinical Implications

The present study found convincing evidence for the impact of the parent-child relationship on child well-being. Interventions could therefore be tailored to specific difficulties in these areas in an attempt to reduce the likelihood of child emotional and behavioural problems. For example, conflict between parent and child exerted a large effect on child well-being, particularly in relation to conduct problems, suggesting that interventions could be directed at improving and repairing the parent-child relationship. This could include encouraging communication around the reason for the conflict before difficulties escalate, relationships deteriorate further and behavioural and/or emotional difficulties emerge. Additionally, professionals working with families could highlight how inter-parental conflict can impact specifically on the father-child relationship and develop interventions that identify and address difficulties in this area.

Limitations and Future Research

Several limitations of the present study should be considered. Firstly, a causal relationship between the variables cannot be inferred due to the cross-sectional

nature of this study. Longitudinal research would facilitate the testing of the direction of the associations. Secondly, as stated earlier, previous research has indicated that marital dissatisfaction may exert less influence than marital conflict in the prediction of child outcomes (Buehler et al, 1997). The low levels of marital distress in the sample may not have been large enough to identify strong effects. Furthermore, the study children were a relatively homogenous sample of nine-year olds with low levels of problem behaviours. This may also have reduced the likelihood of identifying strong effects. The findings may not generalise to other age groups, clinical samples, or high-risk groups. For example, some research has identified differences in how children of different ages interpret and respond to inter-parental conflict. Fosco and Grych (2008) indicated that older children may appraise the situation differently as they may be more "cognitively sophisticated", while younger children may lack the appropriate skills to understand and cope with the conflict (Kitzmann, Gaylord, Holt & Kenny, 2003). Some studies have suggested that negative outcomes are more severe in clinical samples (e.g. Davies & Cummings, 1994; Grych & Fincham, 1990), although meta-analyses by Buehler et al (1997), Reid and Crisafulli (1990) and Evans et al (2008) failed to find significant differences between clinical and non-clinical samples in the strength of the relationship between youth problem behaviours and marital conflict. Given the relatively low risk, homogeneous sample utilised in the present study, it is recommended that further research is carried out on to determine whether the findings are replicated in other age groups and with more 'at risk' or clinical samples.

CONCLUSION

This study aimed to explore the relationship between inter-parental conflict and child well-being. Parental mental health and the parent-child child relationship were hypothesized to operate as mediators of this relationship, and type of conflict, child as cause of conflict, and nature of conflict resolution as moderators. For fathers, father-child conflict and closeness were found to mediate the relationship between inter-parental conflict and child outcomes. However, for mothers, only the parent-child relationship emerged as a significant determinant of child adjustment. Advances in understanding the role multiple stressors exert on child and family functioning continue, with more complex theoretical models emerging. Although more research is needed to determine whether the findings from the present study can be replicated in a wider variety of family types and to other age groups of children, they are important addition to the literature in this area and provide an interesting alternative to existing theoretical models.

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SECTION 5

TECHNICAL APPENDIX FOR THE RESEARCH PAPER

NB: Due to the large output files, only a small selection of analyses are provided here by way of example

Correlation Matrix of Main Study Variables

	SDQ E	SDQ C	SDQ H	SDQ Pe	SDQ PS	PC PCon	PC PClo	PC PDep	PC DAS	PC CES-D	SC PCon	SC PClo	SC PDep	SC DAS	SC CES-D
SDQ E															
SDQ C	.259*														
SDQ H	.219*	.371*													
SDG Pe	.329*	.234*	.200*												
SDQ PS	.072*	.326*	.203*	.163*											
PC PCon	.324*	.600*	.353*	.250*	.316*										
PC PClo	.111*	.237*	.185*	.181*	.370*	.256*									
PC PDep	.271*	.093*	.078*	.111*	-.005	.190*	.048*								
PC DAS	-.107*	-.124*	-.088*	-.049*	.110*	-.164*	.124*	-.052*							
PC CES-D	.201*	.143*	.122*	.133*	-.046	.186*	-.047	.105*	-.210*						
SC PCon	.181*	.408*	.256*	.172*	-.216*	.480*	-.171*	.090*	-.109*	.080*					
SC PClo	-.118*	-.148*	-.071*	-.148*	.206*	-.188*	.251*	-.009	.068*	-.014	-.253*				
SC PDep	.124*	.070*	.071*	.067*	.000	.093*	.024	.149*	-.039	.055*	.220*	.183*			
SC DAS	-.043	-.084*	-.040	-.028	.038	-.079*	.039	-.019	.410*	-.105*	-.156*	.156*	-.018		
SC CES-D	.083*	.059*	.031	.056*	-.019	.080*	-.033	.043	-.137*	.133*	.181*	-.068*	.095*	-.233*	

* $p<0.0004$

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Main Carer SDQ Emotional Subscale	Equal variances assumed	6.454	.011	-5.987	5335	.000	-.30846	.05153	-.40947	-.20745
	Equal variances not assumed			-5.987	5315.543	.000	-.30846	.05153	-.40947	-.20745
Main Carer SDQ Conduct Subscale	Equal variances assumed	14.037	.000	3.812	5335	.000	.13908	.03649	.06756	.21061
	Equal variances not assumed			3.812	5299.105	.000	.13908	.03649	.06756	.21061
Main Carer SDQ Hyperactivity	Equal variances assumed	28.496	.000	9.657	5335	.000	.61451	.06363	.48976	.73925

Subscale	Equal variances not assumed			9.657	5289.215	.000	.61451	.06364	.48975	.73926
Main Carer SDQ Peer Subscale	Equal variances assumed	.510	.475	.675	5335	.500	.02474	.03665	-.04710	.09659
	Equal variances not assumed			.675	5330.613	.500	.02474	.03665	-.04710	.09659
Main Carer SDQ Prosocial Subscale	Equal variances assumed	138.462	.000	-11.225	5335	.000	-.43213	.03850	-.50760	-.35666
	Equal variances not assumed			-11.224	5136.042	.000	-.43213	.03850	-.50760	-.35665
Main Carer SDQ Total Score	Equal variances assumed	.869	.351	3.667	5335	.000	.46987	.12813	.21869	.72105
	Equal variances not assumed			3.667	5328.925	.000	.46987	.12813	.21869	.72106
Level of conflict with mother	Equal variances assumed	.760	.383	-.932	5335	.351	-.20934	.22464	-.64971	.23104

	Equal variances not assumed			-.932	5333.714	.351	-.20934	.22464	-.64971	.23104
Level of closeness with mother	Equal variances assumed	11.911	.001	-10.495	5335	.000	-1.08495	.10338	-1.28762	-.88229
	Equal variances not assumed			-10.495	5286.657	.000	-1.08495	.10338	-1.28762	-.88228
Level of dependence with mother	Equal variances assumed	2.226	.136	-6.239	5335	.000	-.56773	.09100	-.74612	-.38934
	Equal variances not assumed			-6.239	5331.361	.000	-.56773	.09100	-.74612	-.38934
Level of conflict with father	Equal variances assumed	.136	.712	-.128	5335	.898	-.02671	.20899	-.43641	.38299
	Equal variances not assumed			-.128	5334.920	.898	-.02671	.20899	-.43641	.38298
Level of closeness with father	Equal variances assumed	7.096	.008	1.387	5335	.166	.15546	.11211	-.06432	.37523

	Equal variances not assumed			1.387	5297.898	.166	.15546	.11211	-.06432	.37524
Level of dependence with father	Equal variances assumed	.007	.933	-2.754	5335	.006	-.20765	.07539	-.35545	-.05985
	Equal variances not assumed			-2.754	5333.651	.006	-.20765	.07539	-.35545	-.05985
?Dyadic adjustment score for mother?	Equal variances assumed	.184	.668	1.756	5335	.079	.25402	.14464	-.02953	.53757
	Equal variances not assumed			1.756	5334.989	.079	.25402	.14464	-.02953	.53757
?Dyadic adjustment score for father?	Equal variances assumed	.203	.652	1.019	5335	.308	.14533	.14264	-.13429	.42496
	Equal variances not assumed			1.019	5334.942	.308	.14533	.14264	-.13429	.42496
?Total depression score for	Equal variances assumed	1.096	.295	.443	5335	.657	.03628	.08180	-.12408	.19664

mother?	Equal variances not assumed			.443	5329.606	.657	.03628	.08180	-.12409	.19664
?Total depression score for father?	Equal variances assumed	1.061	.303	1.051	5335	.293	.06535	.06219	-.05656	.18726
	Equal variances not assumed			1.051	5322.529	.293	.06535	.06219	-.05656	.18726

Estimates for Mothers Model 4

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
MMH2_SDQpro	<---	Pianta_positive_PCG	.309
MMH2_SDQemot	<---	Pianta_dependence_PCG	.201
MMH2_SDQemot	<---	Pianta_conflict_PCG	.287
MMH2_SDQcond	<---	Pianta_conflict_PCG	.601
MMH2_SDQhyper	<---	Pianta_conflict_PCG	.354
MMH2_SDQpro	<---	Pianta_conflict_PCG	-.237
MMH2_SDQpeer	<---	Pianta_conflict_PCG	.251

Correlations: (Group number 1 - Default model)

			Estimate
Pianta_dependence_PCG	<-->	Pianta_conflict_PCG	.202
Pianta_positive_PCG	<-->	Pianta_conflict_PCG	-.265
e7	<-->	e6	.212
e5	<-->	e8	.264

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
MMH2_SDQpeer	.063
MMH2_SDQpro	.190
MMH2_SDQcond	.361
MMH2_SDQhyper	.125
MMH2_SDQemot	.146

Matrices (Group number 1 - Default model)

Standardized Total Effects (Group number 1 - Default model)

	Pianta_conflict_PCG	Pianta_dependence_PCG	Pianta_positive_PCG
MMH2_SDQpeer	.251	.000	.000
MMH2_SDQpro	-.237	.000	.309
MMH2_SDQcond	.601	.000	.000
MMH2_SDQhyper	.354	.000	.000
MMH2_SDQemot	.287	.201	.000

Standardized Direct Effects (Group number 1 - Default model)

	Pianta_conflict_PCG	Pianta_dependence_PCG	Pianta_positive_PCG
MMH2_SDQpeer	.251	.000	.000
MMH2_SDQpro	-.237	.000	.309
MMH2_SDQcond	.601	.000	.000
MMH2_SDQhyper	.354	.000	.000
MMH2_SDQemot	.287	.201	.000

Standardized Indirect Effects (Group number 1 - Default model)

	Pianta_conflict_PCG	Pianta_dependence_PCG	Pianta_positive_PCG
MMH2_SDQpeer	.000	.000	.000
MMH2_SDQpro	.000	.000	.000
MMH2_SDQcond	.000	.000	.000
MMH2_SDQhyper	.000	.000	.000
MMH2_SDQemot	.000	.000	.000

SECTION 6

A copy of the instructions for authors from Journal of Child Development

Child Development

Edited By: Cynthia Garcia Coll

Impact Factor: 4.235

ISI Journal Citation Reports © Ranking: 2013: 2/53 (Psychology Educational); 6/65 (Psychology Developmental)

Online ISSN: 1467-8624

Associated Title(s): Child Development Perspectives, Monographs of the Society for Research in Child Development

Manuscript Requirements

Child Development invites for consideration manuscripts that are neither identical to nor substantially similar to work published or under review elsewhere. Editors retain the right to reject manuscripts that do not meet established ethical standards for research or dissemination.

The following points are requested of all papers submitted to *Child Development*, and are required for any paper ultimately accepted for publication. Failure to comply with these requirements may lead to delays in processing, review or publication. Failure to comply may also lead to the manuscript being returned to you for revision.

Formatting

All manuscripts must:

- • Be double-spaced (abstract, body text, references)
- • Use 12-pt. Times New Roman font
- • Have 1-inch margins

- • Be submitted as Word files (.doc or .docx; exceptions may be made by contacting the editorial office)

Page Limits

40 pages for Empirical Articles, inclusive of everything, with a reference list no longer than 8 pages.

4,000 words for Empirical Reports, excluding the title page, abstract and references but inclusive of body text, tables, figures and appendices.

Manuscript Structure

Empirical Articles and Reports must have the following major sections (other article types may vary):

INTRODUCTION (but not labeled as such) METHOD
RESUL TS
DISCUSSION

REFERENCES
TABLES and FIGURES

The METHOD section **must** include participant demographic information, such as sex, SES, race or ethnicity, recruitment method, etc.

Abstracts

- o • Must be 120 words or fewer
- o • Include participants' numerical age
- o • Include the total number of participants (Ns)
- o • Must be written in the third person, not first person

References

- o • Do not exceed 8 pages
- o • Are cited both in the body text and on the reference list

- Are listed in alphabetical order by authors' surname
- Include the DOI # when available

Figures

Color figures publish online for free, but there is a $325 cost to *print* in color. More technical information on images (accepted file types, image quality, etc.) is available at Wiley-Blackwell Author Services.

Footnotes and Endnotes

Child Development does NOT publish footnotes or endnotes of any kind. All such notes must be incorporated into the body text.

Blinding

Child Development uses a double-blind reviewing procedure. Please ensure any information that might identify authors is either removed or sufficiently masked.

Information such as the author list, affiliations, acknowledgments, etc. should be removed from the main manuscript file and uploaded as a separate Title Page file during submission.

In-text references to any work by the authors should be referred to in the third person to mask the authors' identities (for example: "We have shown in previous work that children...(Martin 2011)" should instead be written as "It has been shown in previous work that children...(Martin 2011)"

APA Style Reminders

Child Development follows the Sixth Edition of the Publication Manual of the American Psychological Association (APA).

The following are reminders on oft-forgotten points of APA style. However, ultimately it is the author's responsibility to comply with APA regulations. We regret that failures to follow APA rules may well result in slowing down the production process and hence the publication of your manuscript.

Sexism

Avoid sexist language; use plural phrases such as, "children and their toys" for "a child and his toy." Refrain from referring to children with "it."

Figures

Please keep figures as clear and simple as possible. For example, do not use a 3-dimensional bar graph unless you are presenting data along three dimensions. Be sure that labels are large enough to be visible when the figure is reduced in size. Remember to provide figure numbers and captions separately, not on the figure itself.

"Relationship" vs. "Relation"

These are not interchangeable. "Relationship" is used to describe a social bond, such as between a mother and a child, a teacher and a child, etc. "Relation" is used to describe non-animate associations, including those between variables.

Uses of Slash (/)

Uses of slash in the abstract and body text must be avoided. Examples include "and/or," "his/her," etc. "His/her" can (and should) be rewritten as "his or her," etc. Slashes may be used in references, tables and figures. Slashes may also be used when citing previously written material, such as including in the paper a test question that was used with participants.

Types of Manuscripts

Child Development considers manuscripts in formats described below. Inquiries concerning alternative formats should be addressed to the Editor prior to submission. All submissions are expected to be no more than 40 manuscript pages, including tables, references, and figures (but excluding appendices). If the submission is more than 40 pages, it will be returned to the author for shortening prior to editorial review.

Empirical articles comprise the major portion of the journal. To be accepted, empirical articles must be judged as being high in scientific quality, contributing to the empirical base of child development, and having important theoretical, practical, or interdisciplinary implications. Reports of multiple studies, methods, or settings are encouraged, but single-study reports are also considered. Empirical articles will thus vary considerably in length, but should be no longer than 40 manuscript pages; text and graphics should be as concise as material permits. All modes of empirical research are welcome.

Empirical Reports are reserved for short cutting-edge empirical papers that are no longer than 4,000 words in length (including body text, tables, appendices, etc. but *excluding* references), which advance research and knowledge in an area through noteworthy findings and/or new methods.

Reviews focus on past empirical and/or on conceptual and theoretical work. They are expected to synthesize, analyze and/or critically evaluate a topic or issue relevant to child development, should appeal to a broad audience, and may be followed by a small number of solicited commentaries.

Special sections is a format in which papers on a focal topic, written by different authors, are published simultaneously. In some cases, calls for submissions on particular topics will be disseminated through SRCD (via e-mail or SRCD publications), and submissions will undergo normal editorial review. In some cases, a submitted manuscript (e.g., an empirical article) may be selected as a lead article for this format, with invited commentaries providing additional perspectives. The editors also welcome suggestions from readers for topics for this format.

Manuscript Submission, Review Process, and Publication Process

Manuscripts should be submitted online at
http://mc.manuscriptcentral.com/childdev
Full instructions and support are available on the site and a user ID and password can be obtained on the first visit. If you cannot submit online, please contact the Editorial Office by telephone (734-926-0615) or by e-mail (cdev@srcd.org)

Cover Letter

Please include a cover letter that contains the name(s) of the author(s) and affiliation(s), and the street address, telephone, fax, and electronic mail address of the corresponding author. Please also provide details about other published or submitted papers having substantial overlap (including data sets) with the new *CD* submission to enable editors to judge whether the new submission is sufficiently distinct from other work.

Corresponding Author Responsibilities

A corresponding author's submission to *Child Development* implies that all coauthors have agreed to the content and form of the manuscript and that the ethical standards of SRCD have been followed (see the SRCD website or pp. 283–284 of the 2000 SRCD Directory). Any financial interest or conflict of interest must be explained to the Editor in the cover letter. The corresponding author is responsible for informing all coauthors, in a timely manner, of manuscript submission, editorial decisions, reviews, and revisions.

Manuscript Review

Child Development conducts a double-blind review process. Each manuscript is handled by the Editor or an Associate Editor who consults with one or more Consulting Editors and/or ad hoc reviewers who have relevant expertise. To ensure blind review, cover sheets are removed before review; authors should avoid including any other information about identity or affiliation in submissions. Copies of the submission and associated correspondence are retained in the SRCD archives.

Associate Editors review each assigned submission and invite 2-4 reviewers who have pertinent areas of expertise. Authors are encouraged to recommend possible reviewers during the submission process, but this is neither required nor are the editors required to abide by the recommendations.

Once the Associate Editor receives the requested number of reviews they will make an editorial decision based on the reviews and reviewer recommendations. The Associate Editor's decision letter, and accompanying reviews, are blinded and

processed by the Editorial Office staff. These materials are then sent to the authors and all reviewers who contributed to the review process. *Child Development* strives to deliver decisions within 90 days of submission. However given the nature of the review process turnaround times may vary. If you have any questions about your submission, please inquire at cdev@srcd.org or call (734) 926-0615.

Publication Process

When a manuscript is accepted authors will be asked to send a final version and accompanying materials via email to the Editorial Office (cdev@srcd.org). These materials include:

- • A final version of the manuscript that follows all requirements listed in the Publication Checklist (provided upon acceptance).
- • A 300-500 layperson summary for public dissemination purposes (details and examples provided upon acceptance).
- • Signed Exclusive Licensing Forms (ELFs) from all authors.
- • Signed Full Disclosure of Interest forms from all authors.
- • A completed Color Charge Form for figures to be printed in color, if applicable (color figures publish online for free).

There is no charge for publication in *Child Development* unless tabular or graphic materials exceed 10% of the total number of pages. Charges are also levied for changes in proofs other than correction of printer's errors.

Once the above materials have been received the paper will be scheduled to be sent to our publisher Wiley-Blackwell for typesetting and proofing. It will then publish online to W-B's Early View system, with print publication to follow (articles for special sections and issues typically do not publish to Early View.)

Note to NIH Grantees

Pursuant to NIH mandate, Society through Wiley Blackwell will post the accepted version of Contributions authored by NIH grantholders to PubMed Central upon acceptance. This accepted version will be made publicly available 12 months after publication. For further information, see www.wiley.com/go/nihmandate.

SECTION 7

EVIDENCE OF ETHICS AND GOVERNANCE APPROVAL

NB: Ethical approval from research governance/OREC was not required for this project. Instead, access to the Growing Up in Ireland database was obtained from University College Dublin/ISSDA via Dr Martin Dempster and Dr Cathal McCrory.

Agreement between:

University College Dublin, National University of Ireland, Dublin (hereinafter "UCD")

and

XXXXX,

(hereinafter the "USER")

concerning the supply and non-exclusive use of *Growing Up in Ireland* Survey Data

1) For the purposes of this agreement, "data" shall be taken to mean *anonymised **Growing Up in Ireland Survey*** anonymised micro data files (AMFs), together with any documentation concerning the files, on paper or other media, which UCD may supply to the USER under the terms of a licence issued to UCD by the Central Statistics Office; and any derived or reformatted data files at the level of individuals, households or schools which the USER may create therefrom.
2) UCD agrees to supply to the USER anonymised micro data from the *Growing Up in Ireland Survey*, through the agency of the Irish Social Science Archive hereinafter referred as "ISSDA".
3) The data are supplied subject to the provisions of the Statistics Act, 1993 and in particular, Section 34 thereof and subject to the conditions laid down in this agreement.
4) The data may be used for data analysis and presentation by the USER for the purpose of economic and social research, including use in projects carried out by the USER but funded by other agencies or bodies. Use of the data and/or any results obtained from use of the data for any other purposes is prohibited.

5) In using the data the USER should be aware at all times of the risk of inadvertently disclosing information which might result in the identification of an individual. Use of the data and production of all analysis and output should be sensitive to this risk.

6) The USER undertakes that XXXX , or such other employee of the USER as it may designate, shall be responsible for compliance by the USER with the terms and conditions of this agreement and, in particular, for controlling access to the data. The USER shall notify the ISSDA of the name of all employees given responsibility for compliance with this agreement (including any given access to the data subsequent to the signing of the agreement).

7) One copy of the data may be held centrally on the USER's computer systems. Apart from the purpose of back-up, no other copies of the data shall be made by the USER. The data may not be copied to local workstations or computers, whether standalone or linked to the USER's computer system.

8) Security arrangements on the USER's computer facilities will be established to ensure that access to the data stored centrally is limited to those persons who are permitted under this agreement to access the data.

9) Only persons listed in Appendix 1 shall be permitted to access the data provided under this agreement.

10) In exceptional circumstances, written permission to access the data provided under this agreement may be given by the Director of the ISSDA to other individuals, subject to the USER and the individuals concerned undertaking in writing to observe such additional terms and conditions as the Director of the ISSDA may require.

11) The USER undertakes to make all persons who are granted access to the data aware in writing of the terms under which such access is granted, in particular the conditions laid down in Articles 4, 5, 8, 9, 12, 13, 14, 15, 16, 17 and 18 of this agreement.

12) The USER shall keep a register of all persons who are granted access to the data and shall maintain a log of all access made. The USER shall provide to the ISSDA, at any time the ISSDA requests, a copy of the aforementioned register and log.

13) The persons permitted to access the data under this agreement may not use or attempt to use or claim to have used the data, or any results obtained from use of the data, to obtain or derive information relating specifically to an identified or identifiable statistical unit or 'undertaking' as defined by the Statistics Act.

14) The persons permitted to access the data under this agreement may not match or attempt to match or claim to have matched the data, or any results obtained from use of the data, with any other data at the level of the statistical unit or 'undertaking' as defined by the Statistics Act.

15) Access to the data by any other person or body apart from those authorised under the agreement is prohibited.

16) The USER shall ensure that any report or published analysis based on the data shall not directly or indirectly disclose information relating to any identifiable statistical unit or 'undertaking' as defined by the Statistics Act.

17) The USER shall supply the ISSDA, in advance, with details of any report or analysis based on the data which it is intended to publish or release to a third party and, on request by the ISSDA, with copies thereof. The USER shall carry out any amendments to such a report or analysis, requested by the ISSDA to preserve the anonymity of the data, before the report or analysis is published or otherwise released.

18) The USER shall ensure that all such reports and analyses acknowledge that the "***Growing Up in Ireland*** data have been funded by the Government of Ireland through the Office of the Minister for Children and Youth Affairs; have been collected under the Statistics Act, 1993, of the Central Statistics Office. The project has been designed and implemented by the joint ESRI-TCD ***Growing Up in Ireland*** Study Team." © Department of Health and Children

19) Copyright and all other intellectual property rights relating to the data are vested in the Department of Health and Children.

20) In the event that this agreement is terminated by either the ISSDA or the USER, the USER and all persons who have access to the data shall cease to use the data and shall:

   a) return all copies, including back-up copies, of the data to the ISSDA;

   b) retain only those unpublished results or analyses obtained from the use of the data agreed by the ISSDA; all other results, analyses and records relating thereto shall be destroyed.

21) A representative of the ISSDA shall be permitted access, at all reasonable times, to the results and analyses obtained from the use of the data together with any records and documents relating thereto for the purpose of verifying compliance with the conditions of this agreement. The USER shall provide the ISSDA with any information which the ISSDA requests in relation to the USER's compliance with this agreement.

22) The USER shall notify the ISSDA as soon as is practicable of any errors that may be discovered in the data or accompanying documentation. No warranty is given by the ISSDA that the data or accompanying documentation is error free.

23) Permission to use the data for the specified purpose may be withdrawn by the ISSDA at any time, without notice and without cause assigned, by written notice to the USER signed by or on behalf of the Director of the ISSDA.

24) Any alteration to the terms of this agreement must be made in writing and must be signed by or on behalf of the Director of the ISSDA.

25) The USER may not assign the rights granted under this agreement to any other organisation or body.

26) If the USER becomes aware of any breaches of the conditions laid down in this agreement, it shall notify the ISSDA promptly.

27) Correspondence from the USER concerning this agreement shall be addressed to ISSDA Administrator, UCD Library Administration, UCD.

28) The USER agrees to be bound by the terms and conditions of this agreement.

***** Please note that incomplete or unsigned forms will be returned for completion *****

Name: _____

Address: _____

_____

Email: _____

Signed _____ Signed _____

Administrator of ISSDA **USER**

Date _____ Date _____

Appendix 1

Persons permitted to access *Growing Up in Ireland* Survey data under Article 9 of Agreement

Appendix 2

Please provide a short description of your intended use of the *Growing Up* in Ireland Survey data. Please provide an estimated end date for this use

Appendix 3

Please select the GUI data you require from the list below. Note that if no datasets are selected, this form will be returned to you for completion.

- ☐ Infant Cohort (9 Month) data, Wave 1
- ☐ Infant Cohort (3 Year) data, Wave 2
- ☐ Child Cohort (9 Year) data, Wave 1

Appendix 4

GUI Register of Use

ISSDA has been asked to provide a database of GUI research projects on its website, to assist researchers working on similar projects to contact and collaborate, where appropriate. If you consent to allowing your details to be shared on this website, please tick one of the following options:

- ☐ Description of project and contact details
- ☐ Description of project only
- ☐ No details

If none of the boxes above are ticked, no details will shared on the ISSDA website.

SECTION 8

REFLECTIVE APPENDIX

When I embarked on this 'thesis' journey, I was aware, from previous trainees, that it would be a stimulating and challenging process. Nonetheless, I totally underestimated the amount of time, toil and sacrifice it would involve. I have been excited about both my projects from inception. However, as my systematic review and research project were both in completely different areas, I had to emerge myself in two different literature bases which was difficult to do time-wise with competing course timescales, family duties and placement commitments.

I found the exploration of the role of shame in posttraumatic stress symptoms as interesting and insightful. It is relevant and topical in clinical psychology and my review partner and myself are hopeful that it will add to knowledge and understanding in this important area. The systematic review itself was a long, hard marathon. Each stage involved many 'woman' hours and I found I had to dig deep at times to keep the momentum going and the review moving forward. Having a review partner to share the load and help motivate was an integral and very important part of the process. Working in partnership on the systematic review is something I would recommend to future trainees. Carrying out the systematic review was a steep learning curve for me in terms of time management. I am normally an organised person but I found I had to be especially diligent at both planning and note keeping to ensure all bases were covered and no stone left unturned. The systematic review

also really helped me to improve my skills in reviewing and synthesising literature that will continue to be important as I move into my career in clinical psychology (e.g. in critically evaluating new research and interventions).

The idea for my large scale research project took shape after I received feedback from my second year research proposal presentation that my research questions were too big to answer with the size of the population I would be likely to have access to. Panic ensued! I knew I wanted to explore the relationship between inter-parental conflict and child adjustment and yet I did not have a realistic plan of how I would do this. It was one of my tutors that suggested using a large, existing database to provide me with the sample size to address my research questions. This was an exciting opportunity for me as I had not previously had the opportunity to work with such a large database. It also provided me with an opportunity to improve my statistical skills. I did encounter a number of difficulties with my large-scale project. My early readings of the literature left me feeling quite confused at the numerous variables that can impact on child outcomes and the multifarious nature of the interactions between these variables. I also experienced difficulties accessing the Growing up in Ireland database as I was not resident in the South of Ireland. The relief that I was able to access the anonymised database through one of my supervisors was short-lived when I found out that some of my relevant variables were not available in the anonymised database. Fortunately I was able to access the relevant data from Dr Cathal McCrory. These processes led to delays in my data analysis and exploration and resulted in additional stress during this already pressurised time. In saying that, I am very grateful that I had the opportunity to work

on this large database in such an interesting and important area and also to benefit from the experience of the academics working with me on the project.

This thesis – its planning, execution and writing up – has been an emotional roller coaster. It often took over large parts of my life, at times to the detriment of other very important aspects of my life, such as my children, family and personal relationships. Thankfully my children frequently reminded me to take my head out of the books and spend family time together. These short time outs helped me to recharge my batteries and find the internal resources to continue on this marathon and move persistently towards the finish line.